STRATEGIES AVAILABLE TO SPANISH CONSTRUCTION AND ENGINEERING FIRMS IN ORDER TO COMPETE IN THE NEW EMERGING EUROPEAN MARKET

by

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Submitted to the Department of Civil Engineering in Partial Fulfillment of the Requirements for the Degree of

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ABSTRACT

The Construction industry is playing a major role in the development of the
new European economic order. Also, the evolution in Europe is just a clear
example of the tendencies of the World economy toward the globalization.
The construction companies, as well as the rest of the industry, are coping
with these trends through internationalization and diversification.

This thesis studies the strategic positioning of the Spanish Construction and
Engineering Firms, facing one of the biggest challenges in the last decades,
such as the European integration and the opening of Spain as an
international market place. The analysis goes from the political and
economic situation of the European nations, through the main
characteristics of the construction industry in the different countries. Later,
an analysis of the variables that bias the market needs and the constructon
firms' capabilities gives us an idea of the strengths and weaknesses of the
Spanish construction industry. Finally, I establish the possible strategies for
the Spanish construction companies to cope with the new market trends.

Thesis Supervisor: Fred Moavenzadeh

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INTRODUCTION.

In 1986, Spain and Portugal entered the European Community, taking the last step previous to what has been considered the process of the European unification.

Three years later, the political changes undertook in East Europe are building the framework for their economical development and, what is more important, for a new political order in the whole Europe.

For Spain, the integration into the European Community was the most important political issue in the last decade. After the economical crisis of the 1970s, and after the political reorganization of the country, the main goal was to develop the social structure of Spain. The political stability was guaranteed, but the cost of this process, undertaken in the middle of a big crisis that hit the Spanish economy, was high. As a result, the economical situation was proved to be bad, with an economy less flexible than the one from their neighbors, due mainly to the fact that Spain had been developing during the last forty years isolated from the rest of Europe, with high protecting barriers, and backing its competitive advantage on the low-cost labour, without paying attention to the improvement of the economical network and without developing new process technologies.
Now, the government considered the economical development as the only way to accomplish the objective of transforming the obsolete Spanish society into a new flowing one. This would be done through the opening of the barriers in order to improve the competition and to let the money flow into Spain, creating then a real threat that would make the Spanish industry wake up and develop, avoiding the striking loss of competitive advantage.

The timeliness of the fifth centenary of the american discovery was the motivation for Spain as well as for the rest of Europe to create a milestone in a short run that would make the social and economical gear ro run into the idea of unification. Particularly, Spain was stressing this process through the organization of the Olympic Games in Barcelona and the World Fair "Expo'92" in Seville. This was a way to improve internally, speeding up the economic integration by diminishing the differences in infrastructure, socio-economic network and image with the rest of Europe.

The European Community is backing this development first, in a short run, considering Spain as the biggest potential market in Europe, to which the European firms have open access; second, because in a medium run the economical differences between the north and the south could be a big
obstacle to hurdle in a unified European society; third, in a long run, because a fully integrated Spain may be the political linkage between Europe and South America, opening the expectatives for Europe meanwhile U.S.A. is losing credibility in those countries.

The situation of Spain without this support was stuck in the middle, just following the path of the industrialized nations, being a low-cost producer (comparing with the European countries) that was becoming expensive comparing with the Third World countries, selling many agricultural and commodity products with medium technology and medium quality. The possibility of competing successfully with the European nations in that way was low, because its social and economic structures were less developed, this being the main obstacle to hurdle, and with lack of money to undertake the improvements needed, due to the lower competitive capacity.

Therefore, by entering the European Community, Spain is improving the structure of the country, getting connected with the developed world after years of isolation, accessing to the sources of the technological innovation and increasing the economical level of the society as a whole. Also, Spain is guaranteeing a strong market in order to sell its products, leaving away the direct competition from the
developing nations. Doing that, the strategic position of the country is clarified, as well as the political and economic situation.

But after three years of consolidating the common goals, Europe is facing a new situation that will turn out the former strategies of the different nations involved. The actual transformation of the East European countries is going to give them in a medium run political stability through the new open market economies, leaning on the apparent success of the European unification process and the transformation of Spain and other southern European countries during the last decade.

The East European nations, with qualified population and clearly defined social structure similar to the other European nations, are showing up as an attractive new market that may be able to develop in a medium term and that is open to the access for the European industry in unimprovable conditions, with excellent prospects of growth and profitability after the political stabilization. This is stressed also by the lack of opportunities for the European industry in the Third World where, due to the large accrued debt, the perspectives for business are almost nonexistent.
If Spain and Portugal were the focal points three years ago, East Europe is going to be the focussed area now, also because it can become a bridge to Asia, the same way that Spain is the link between Europe and Africa.

The reasons why Europe is giving support to the Spanish economy through the European funds and the industries' investment are applicable to the development of the eastern countries, and maybe in a higher degree because, first, the size of the potential market is bigger; second, the idea of the unification will be carried out in a better way through the future integration of the East European nations, accomplishing then a clearer definition of the limits of Europe; third, the geographic situation as a link between Europe, the Middle East and the U.S.S.R. is even more important than the situation of Spain.

At this point, Spain is facing again a new situation that may draw back the support for the improvement of the network and infrastructure, stopping a further development.

With the European unification almost established, Germany, the economical head of the European Community, has a strategic position to compete, now as part of the unified Europe, in the World market. Politically, the new Germany is becoming the center of Europe.
The EC, as a unit, may change the priority, in order to get the new political border in the East and South East and in order to get the new market, considering assumed that the south of Europe is already thoroughly integrated.

Nevertheless, the ideal goal for Europe is against the short run interests of the southern and western nations of Europe, such as France, UK and Spain. They will have fewer opportunities to share the new markets because of the less favorable geographic and cultural proximity comparing with Italy, Germany or the EFTA countries.

All of this could imply a cut-down of the investments in Spain and Portugal. Politically, Spain may not be a priority area for the EC to develop. Economically, there will be less developed areas in Europe that will receive the funds or, at least, the interest and money from the main companies.

Besides, Spain will not be the only country with low-cost-based economy. The Eastern nations will have lower costs and comparable capacity in the future.
THE INTERNAL MARKET AND ITS IMPLICATIONS FOR EUROPEAN COUNTRIES.

The European Community is in the process of creating the biggest internal market in the world by 1992. 320 million will be the combined population of this new body. The political and economical objectives of this unification were stated in the Rome Treaties of 1957, as well as in the Single European Act. The Community is assigned the task of achieving the "four great freedoms": The unhindered movement of goods, services, capital, and persons.

The first step in developing the unification was taken through the customs union between the European countries in 1968. But this stage brought only a partial removal of the obstacles to the free movement of persons, goods, and capital. Despite the great advantages that the customs union implied for the member countries, hardly any progress is to be noted in making the common market a reality. On the contrary, national differences in technical standards, safety provisions and new policies such as environmental and consumer protection, as well as the national and professional organizations and rules led to the emergence of new barriers to trade. If the political objective was established as a base for a further economical development,
the political structure was the obstacle to implement the first stages of the economic integration.

The actual situation:

The integration of Spain and Portugal in 1986 was the first milestone for the new development of the European Community (EC). Since that time the unification process became apparent and irreversible. The European Community, with 320 million people, is the largest economic area in the industrialized world. Having approximately 80 million more people than the United States and being three times as big (in population) as Japan, the new unified Western Europe is the strongest economic producer. In 1988, the EC accounted for the 24.8% of the

![Figure 1.1](image_url)

**Figure 1.1**
GDP of the EC, USA and Japan as percentage of the World GDP. Year 1988

Source: Commission of European Communities
world production. the United States for the 22.5%. and Japan for the 9.9% (at the existing exchange rate in 1988).

The economical goal of the Community is to assert itself and develop as an industrial region. The lack of a common market has been carrying with it direct and indirect economic costs of considerable magnitude. The European Commision, through the Cecchini Report in 1988, put these costs at between 200 and 250 billion ECU. The political and economic challenges that the Community is facing are somehow the result of the acknowledgement of this "waste" for the national economies.

For years, unemployment in the Community has been far too high. After the economic crisis of the 70's, the unbalance between the north and south of Europe, as well as the structural weaknesses and problems, became more apparent, since the process whereby the economies of the less favoured countries were to catch up came to a standstill. The European Community has lost ground in important areas like high technology and hence in international competitiveness. Since the early 1980s the Community has been at the bottom of the growth rate in comparison with its main competitors: The United States and Japan.
Thus the European Countries as a whole need urgently higher growth, to avoid the social problems related with the economic crisis, and the best way to achieve this goal is to become more competitive national and internationally through the removal of the national protections. This growth cannot be stimulated from outside, because the international markets and especially the Third World have problems due to the effects of the debt crisis. The Community must therefore strengthen the internal growth, and the large internal market should be the engine to get it. The measures to carry out the internal market must hurdle the national barriers that were not removed by the customs union, and they have to be related with the supranational control over the industry protectionism at the national level, with the standardization of procedures and products.
and with the implementation of European rules and directives. In practice, that should imply the abolition of frontier checks, the free movement of persons, the removal of the political and tax barriers, and the liberalization of public procurement and services. But the final success of these implementations will depend on the timeliness and on the complete abolition of the obstacles to the free movement of goods, services, persons, and capital.

Because the common interest has been understood by the nationalities involved, it looks like these objectives could be achieved by 1992, after the cohesion and agreement reached on liberalizing the internal movements. But some major difficulties such as the removal of the tax barriers must be overcome in order to complete the internal market process.

The advantages of completing the internal market.

The internal market provides the European Community with considerable additional growth potential. The completion of the unified market can set the following economic effects:

On the supply side:
* The savings will occur based on the larger amount of goods as a result of the abolition of frontier formalities,
additional inspections and certificates. The simpler it becomes to supply products marketed in one member country in the other countries as well, the greater is the incentive to expand production capacities and produce for the larger internal market. Thus considerable economies of scale is expected, therefore increasing the productivity and making the unit costs fall.

* The market, public and private, will be unprotected from the industry rivals, thus intensifying the competition. That will create better conditions for a greater emphasis on research and development as well as innovation, because the market itself guarantees the sales in a larger scale. As a result, the economic structure of the industry will be strengthened. Just because the market allows the competition, firms will become more competitive.

On the demand side:

* Lower unit costs, due to the economies of scale, will lead to lower prices, as competition intensifies. This will strengthen the internal trade and will create additional demand within the Community. The fierce competition and the larger market will be the incentives for a greater variety of goods that will generate additional demand.
On the Public Sector:

*Many types of cost savings will occur as a result of the completion of the internal market. The expenditure on the supervision of national regulations will be the first to diminish. The required liberalization of the public procurement will create opportunities in the public contracts within the Community, forcing the competition and, consequently, the services for the Public Sector. Also, and more important, this will create a budgetary margin that could be used to increase public investment.

Summarizing, the Cecchini Report estimates that these microeconomic effects for the Community will save between 173 and 257 billion ECU, that is, between the 4.5% and 6.5% of the Community Gross Domestic Product (GDP). The macroeconomic effects, according to simulations and assuming no change in economic policies, would be raising productivity and falling prices. If these effects are carefully reinforced by the fiscal policies of the Member States and promote profitable public investment contributing to the expansion of the Community-wide structure, the total growth effect is estimated, always according to simulations, in a 7% in the medium term. Thus five consequences must be reminded:

- Additional growth
- Increase in employment
-lower inflation
-easing of the burden of public budgets
-improvement in the external position

Prerequisites for the success of the internal market.

For a proper functioning of the competition, that will be one of the engines of the new development, supporting economic policies will be required. In general, a dynamic economic environment that safeguard the monetary stability, allow the implementation of a co-operative growth strategy, improve the productivity, and balance the economic development of the different regions will be the key of the success through maintaining the social stability required to develop steadily. The main measures, such as the interdependency of the national currencies or the support to the less developed economies through the structural funds have been carried out. By 1993, approximately 30 billion ECU will be available for the catching-up of these undeveloped regions. This structural funds are equivalent to the 0.7% of the Community’s GDP, that equals the amount of resources provided world wide jointly by the World Bank and the International Monetary Fund (1).

(1) Commision of the European Communities. The Cechini Report.
The conditions for the catching-up process to be carried out successfully pass through the liberalization of the capital markets in these regions, by increasing the investment ratios, improving the capital productivity, and the easing of the access to the internal markets.

*How the success will affect to the different countries.*

The gains from project 1992 will come, as we saw, through several channels. Producers will have easier access to a bigger market, which should make it easier to reap economies of scale. They will also face tougher competition, and this, too, should push down costs, partly by encouraging specialization in activities where producers have a relative comparative advantage. (A country can have comparative advantage at producing something even if it makes everything less efficiently than its competitors do; in that case its comparative advantage lies in producing the goods and services it makes least inefficiently).

Consumers everywhere will benefit from all these effects, but producers will not. Competition and specialization may force them to shrink their businesses, or perhaps go under altogether. But, what is the existing pattern of specialization? It seems like every Western European country make and trade about everything, due to the former
situation that led them to the self-sufficiency. There are some exceptions though, but what is interesting to remark is that most trade is within industries, as opposed to between industries.

If we divide the industries according to whether they are intensive in their use of labour, capital, human capital (measured by R&D spending) and natural resources, and we calculate the trade balance of each country in each industry, the big trade surplus that we will discover will be a sign of specialization. That is what Mr. Damien Neven, from INSEAD in England, did. As a result, the following comparative advantages can be found:

- In human capital, Ireland, West Germany and France has something of a comparative advantage.
- In labour, Portugal and Greece are strongly specialized in labour-intensive production. Spain, surprisingly, is less so.

In general, the countries of northern Europe (the EC excluding Greece, Portugal and Spain) are economic generalists.

The question is whether there will be more specialization after 1992. Since trade is already fairly free within Europe,

(2) ECONOMIC POLICY. "Winners and Loosers from 1992". Damien Neven. April 1990.
any scope for efficient specialization would already have made itself apparent; the fact that there has been little of it is suggestive.

In a free-trade Europe the price of labor, land, capital and other factors of production should eventually be more or less the same in all countries. Talking about wages, for instance, in a country with lower prices of labor, the trade would be pushing the economy towards the labour-intensive production, thus driving the wages up. But we find that countries like Portugal, Greece and, in a lower level, Spain, have low wages comparing with the rest of the European community. That suggests that there may be still some trade barriers. But country-by-country wage differences are no greater in industries that are affected by barriers to trade than in the others. This would imply that trade barriers are not the only reason for the wage differences that do exist.

What about economies of scale? In theory, countries with lots of small firms will gain more than countries where firms, on average, are already large and where the scope for the improvement of economies of scale is therefore narrower. The size of firms of the different industries across the EC is remarkably similar. The exception is Spain, where firms are much smaller than the EC average. So Spain stands to gain from economies of scale as well as from its
comparative advantage in labour-intensive production. Because of these reasons, it looks like the biggest share of benefits for producers will go to southern Europe.

These expectations have opened these countries to the flow of investment, in every one of its varieties. As explained before, the southern countries in Europe are characterized by their low cost, especially by the low labour cost. We should consider that among the four inputs of the industry, that is, labour, capital, human capital and natural resources, the mobility of capital, human capital and even natural resources (through trade) is higher than the mobility of labour, because of social reasons. But as a consequence of the high flow of investment, the costs are pushed up, following the process explained before, thus making the investment less and less attractive.

The latest changes. The opening of Eastern Europe.

What happen if the low labour cost is not an advantage anymore? What if the investment lessen? If there are other countries that are trade partners of the EC and they have lower costs, would the investment turn towards these countries?
That applies particularly to the cooperation between the two economic communities, the EEC and EFTA. The Luxembourg Joint Declaration on 9 April 1984 gave collaboration between EEC and EFTA a new dimension. It declared the establishment of actions to consolidate and strengthen co-operation, "with the aim of creating a dynamic European space of benefit to [these] countries". This opened the way from a free trade area to that of a European economic area.

On 5 September 1986 the European Council issued a unilateral declaration replied by other one from the EFTA countries on 3 December 1986. Both declarations mentioned a number of new actions by which wider-reaching co-operation would apply. These are services, the movement of capital, state aid, training programs, intellectual and industrial property, the simplification of frontier formalities and indirect taxes.

Krugman, from the Massachusetts Institute of Technology, shows in his study of the Community and EFTA that the internal market will bring significant advantages for both sides: "The benefits of EFTA participation in European integration no doubt fall disproportionately on the EFTA nations, but there are significant gains for the EC as well".

(3) ECONOMIC BULLETIN FOR EUROPE. Vol. 40 n°4.
Furthermore, by the end of 1989 the political changes in eastern Europe bring more expectations for the economic development in these countries to succeed. The important fact for our study is that the higher the guarantee of political stability, the lower the risk involved in the investment, thus the flow of money looking for benefits will be increased. Until the last year, and after the declarations about cooperation between the two "Europes", the political stability was higher than actually, the future prospects regarding the economic needs were medium to high in a long term, and the capabilities of the labour force were as high as much as low were the labour costs. The values of the South European countries were related with the free economies developed, that made them have a know-how in production and trade.

Figure 1.3
GDP per capita in the Eastern European countries and in the OCDE. Year 1988

Source: EL PAIS newspaper, 26 Aug/90.
But since the political breakthrough that happened in the east of Europe last year, the scene has changed.

Financially, the changing political and economic situation in Eastern Europe is forcing up global interests. The investment required to raise living standards in eastern European countries is estimated in between $6000bn and $12000bn, according with the New York investment bank Morgan Stanley. In order to finance this, interest rates have to be high to attract lenders. At the same time, the increased demand from the newly opened markets will push the prices up, forcing the interest rates to follow. This will give more opportunities for the West European industry in East Europe, but at the same time it will be a big hit for the western economies, decreasing the investment and the growth rate in the countries of West Europe.

This process will favor some countries rather all of them:

*The eastern European nations that had production capabilities and highly trained labour, together with a political stability, will benefit (not in a short term, though) based on their low costs. This is the case of West Germany, Czechoslovakia, Hungary and, at a lower extent, Poland.*
*The rest of the countries in East Europe, with high debt and political uncertainty, will have problems to attract foreign investment because of the lack of prospects for benefits in a short term.

*The countries of Southern Europe, without an industry with competitive advantages to gain foreign markets, will be in a defensive position, in terms of foreign investment, and part of this investment from other countries will drift toward eastern countries looking for cheaper bargains and bigger markets.

The new situation in the Middle East has broken again the former forecasts, and has shown that the lack of economic stability is a handicap for the developing nations of East Europe. After losing the former trade relations with the USSR, without energy resources other than the coal, and with a huge environmental problem because of the lack of planning and the obsolete industry, some of these countries cannot afford to buy the oil for their development, with GNP s that do not even equal the price of their needs in oil resources in some cases.

The investment might turn out of these countries, worsening the situation and giving a chance for the South European nations to keep the foreign investment within their
countries. As shown in figure 1.4, some eastern European countries may go into bankruptcy, due to the latest increase in oil prices after the gulf crisis.

**Figure 1.4**

Percentage of national reserve to expend in oil bills, at expected prices

<table>
<thead>
<tr>
<th>Country</th>
<th>Bulgaria</th>
<th>Czechoslovakia</th>
<th>East Germany</th>
<th>Hungary</th>
<th>Poland</th>
<th>Romania</th>
<th>Yugoslavia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data in % of reserve</td>
<td>$20 per barrel</td>
<td>$30 per barrel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Morgan Stanley
Note: Values at actual currency exchange
REASONS AND IMPLICATIONS FOR THE SPANISH INTEGRATION IN THE EUROPEAN MARKET.

In 1986, Spain and Portugal joined the European Community. For Spain, this was the main goal understated by the socialist government when the socialist party PSOE won the general elections in 1982. This year and this fact were of maximum importance in the chronological process through which Spain went during the political, social and economical transition that, since 1970, was as shown:

- 1970- Spain signs a Preferential Trade Agreement with the EC.
- 1975- Franco dies. Juan Carlos I becomes King.
- 1976- 10% devaluation of the Peseta.
- 1977- Unions are legalized. First democratic elections held. 20% devaluation of the Peseta.
- 1982- Socialist Party wins elections. 8% devaluation of the Peseta.
- 1986- Spain joins the EC.
- 1989- Spain joins the European Monetary System (EMS).

The importance of this chronological process, together with the economical and social consequences implied, is crucial
to understand the reasons that led to entering the EC and the subsequent economical development of the country.

For forty years, until the death of Franco, and even before, Spain was an isolated country that had lost the political influence through the loss of the colonies during the last part of the XIX century and the beginning of the XX, and through the neutrality in the Second World War, remaining after that as one of the last dictatorships in Western Europe.

The political isolation led to the economical isolation and protectionism. Through this, and based on the development of the Tourism as the first industry in the country that generated the main inflow of capital, Spain got by the '70s a fair economical development, helped by the low costs of the country and the beginning of trade relations with the countries of the environment (mainly Europe), to which Spain was a low-cost supplier.

At the same time, Spain began to compete in not sofisticated industries with medium technology, based almost exclusively on the low costs of what became skilled labor. But, during the '70s, two facts affected the relatively stable situation of the protected Spanish economy: On the economic side, the boost of the oil prices in 1973,
generating the first oil crisis. On the political side, the death of Franco, that opened the door of the uncertainty in a moment when the economic crisis was becoming apparent. Spain, without a solid economic structure because of the protectionism and isolation that led the industry out of the competitive environment, found itself hit by the crisis in much higher degree than its neighbors.

The most remarkable tools for the measurement of the effects of this process are the unemployment and inflation rates, because of their social implications. The Spanish economy went through three phases since 1970. The first, which lasted until 1977, was dominated by sharply increasing inflation, which was running at 25% in 1977, up from an average of 6% in the 1960s. Unemployment, which had averaged 1% in the '60s, was also on the rise, and had reached a 5% by 1977. The second phase, from 1977 to 1985, was one of sharply increasing unemployment, with the rate reaching a staggering 21.5% in 1985. This phase was characterized by declining inflation, although at a decreasing rate. Inflation, that had decreased 9 points from 1977 to 1979, was only 7% lower six years later. The third phase, since 1986, is characterized by slowly declining unemployment, which rate is expected to be 16.1% in 1990, and 15.3% in 1991.

The advantages of the integration.

The third phase is coincident with the Spanish entering in the European Community. What did Spain get from the integration? Why at that time?

After the crisis, reorganization of the production system was largely imposed by the industrial structure itself. Before 1974 Spain had specialized in basic industries such standard metal products, chemicals and transport equipment and many of these industries were publicly owned. These industries were hit by the oil shock, suffering from overcapacity, overmanning and financial trouble. The increasing foreign competition and the end of the survival of low-productivity industries based on the low real wages pushed for a restructuring of the industry. And this reorganization by itself would require the improvement of an obsolete infrastructure system, basic support for the development of the industry and the economy in general.

With the measures adopted by the government and the turnaround of the economy in the western hemisphere, the restructuring was carried out, giving the economy better future prospects. At this point, with the industrial and economical system more related with the European
structures, it was time for an integration that would favor Spain as well as the EC under the next situation:

* Spain lacked the money and resources for the improvement of the infrastructure to support the future development of the country.

* At the same time, Spain was a growing country in economic terms, with a social and economic structure that provided prospects of a big market for the EC to enter. This position was strengthened by the lack of opportunities in the third world, traditional market for the European companies (specially in the construction industry).

Therefore, Spain, as well as Portugal, was offering the prospects as a potential market in exchange for the investment required to carry out the improvement needed for this market to develop. This, I think, has been the typical exchange situation for the countries of southern Europe that entered the EC in the last years (Greece, Portugal, and Spain), and it makes the industry of these countries to find itself in a defensive position facing the unification of the European Community. As shown in figure 2.1, the investment and profit share in Spain for the last years are significant for the understanding of this evolution and interests stated:
The actual situation:

Spain is the second largest country in the EC, after France, being the fifth country in terms of population, after West Germany, Italy, UK and France. As shown in figure 2.2, the Spanish population represents a 12% of the total European population, meanwhile the area of the country is the 23%. That explain somewhat the interesting position of Spain as a potential market within Europe.

The size of the country makes the density of the population really low comparing with the countries of the environment, as we see in figure 2.4. This, along with the geographical
conditions, with a topography characterized by high and irregular reliefs, and low and irregularly distributed rainfall, make the infrastructure a main objective for the government.
The socio-economic environment:

In the following figures, I show some significant values to compare the Spanish economy with the ones from the neighbors. In figure 2.5, we find the GDP of the 12 countries of the Community in 1985, being Spain in the fifth position with an 8.6% of the total European output (The Spanish GNP occupied the thirteenth place in the world ranking in 1986). But if we go to figure 2.6, we see that the GDP per capita in Spain is lower than in 9 countries in Europe.

Only Greece and Portugal have lower GDP per capita than Spain, and Ireland's GDP/capita is closer, a little higher though, to that of Spain. The Spanish GDP/capita is less
than the half of the French and German GDPs per capita. Even comparing with Italy and the U.K., the Spanish GDP/capita is as low as 60% of the Italians and British. That makes the unbalances between Northern and Southern countries very clear, with an almost direct translation in the different countries' wages, as we will see later.

Figure 2.5
GDP in the European Countries
Year 1985

Figure 2.6
GDP per capita in the European Countries
Year 1986
After the integration in the EC, Spain is maintaining a growth rate higher than the EC average, and significantly lower than the growth rates of Portugal and Greece. This trend is expected to continue for several years, as shown in figure 2.7. Looking at that figure, it seems that the unbalances are being corrected through the unification, and the countries with higher growth rate are the ones from the south of Europe.

![Figure 2.7](image)

Variation of GDP value (in ECU) in the EC countries

But several trends can be observed. If the GDP volume is increasing more in the southern countries, their overall position is not improving in all of them. Looking at the exchange rates of the different countries, we see that, since 1985, the national currencies of Spain, France, and Italy are
improving versus the ECU, meanwhile Portugal and Greece see their currencies losing value since the integration of Spain and Portugal in the EC (figure 2.8):

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**Figure 2.8**  
Variation in exchange rate since 1985  
National coin vs. ECU

And, what about costs? The hourly labour costs are shown in table 2.1, for the countries of the European Community. The labour costs are strikingly below the average of the EC in Spain, Portugal, and Greece, and in UK, Ireland and Italy are also below the average, but in a comparable level. What is interesting to understand, though, is the ratio between the labour costs and the GDP per capita of each country. If we compare these two sets of values, we see that the labour costs are relatively lower than their possibilities (always comparing with the GDP per capita) in Portugal, Denmark,
and France, being higher in Ireland, Netherlands and Belgium, as shown in figure 2.9.

Table 2.1. Hourly labour costs (1984)

<table>
<thead>
<tr>
<th>Country</th>
<th>Deviation from EC average (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>6.09 -39</td>
</tr>
<tr>
<td>France</td>
<td>12.37 27</td>
</tr>
<tr>
<td>Netherlands</td>
<td>13.68 41</td>
</tr>
<tr>
<td>Italy</td>
<td>10.73 -10</td>
</tr>
<tr>
<td>UK</td>
<td>9.04 -7</td>
</tr>
<tr>
<td>Irland</td>
<td>8.90 -8</td>
</tr>
<tr>
<td>Portugal</td>
<td>2.38 -75</td>
</tr>
<tr>
<td>Greece</td>
<td>4.08 -58</td>
</tr>
<tr>
<td>Belgium</td>
<td>13.40 38</td>
</tr>
<tr>
<td>W. Germany</td>
<td>14.24 47</td>
</tr>
<tr>
<td>Denmark</td>
<td>11.95 23</td>
</tr>
</tbody>
</table>


Figure 2.9
GDP/capita versus hourly labour costs in the European countries

Source: INE
Therefore, we see that the wages have a level to which they tend, based on the share of labour, capital, human capital, and natural resources in the different industries, as well as on the GDP per capita of the country. In this case, Spain does not seem to have any specially unstable economical development, being its ratio wages/GDP per capita in the average of the EC values. Therefore, the Spanish wages should not go up much faster than in the rest of the European countries, if we look at the figure 2.7, based on the GDP growth. But, are the wages really going up? In the figure 2.10, the variation of the wages during the last four years has been stronger in the Southern European countries, tending to correct the previous unbalances. But if we see the figure 2.11, considering the real wages in ECU, the values for countries such as France have increased more, what shows that a stable economy should have a clear relation between wages and GDP (and the ratio wages/GDP per capita was lower than the average for France). Spain, all the time, is appearing as an stable economy, according with the figures, in an almost flawless position regarding the growth stability.
Talking about the factors such as labour, capital, human capital, and natural resources, Spain does not seem to have a clear comparative advantage or disadvantage in any of the industries with strong dependency on each of the factors. Contrarily to what can be thought, the advantage of Spain in labour-intensive industries in trading with the rest of the
European countries is not strikingly superior; in the same way, the disadvantage in human capital-intensive industries is not as big as thought, either, as shown in table 2.2:

Table 2.2. Revealed comparative advantage: Net exports/domestic output (adjusted for overall trade balances) (%)

<table>
<thead>
<tr>
<th>Natural resources</th>
<th>Av. capital/ Av. labour</th>
<th>High labour</th>
<th>High capital</th>
<th>High hum capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>0.6</td>
<td>2.4</td>
<td>8.7</td>
<td>2.4</td>
</tr>
<tr>
<td>France</td>
<td>1.7</td>
<td>-2.6</td>
<td>-9.8</td>
<td>0.2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>12.0</td>
<td>N/A</td>
<td>-74.4</td>
<td>-17.2</td>
</tr>
<tr>
<td>Italy</td>
<td>-14.9</td>
<td>6.1</td>
<td>36.1</td>
<td>3.1</td>
</tr>
<tr>
<td>UK</td>
<td>-0.8</td>
<td>1.0</td>
<td>-2.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Ireland</td>
<td>16.5</td>
<td>-9.1</td>
<td>-61.3</td>
<td>-9.5</td>
</tr>
<tr>
<td>Portugal</td>
<td>12.2</td>
<td>4.4</td>
<td>79.4</td>
<td>10.2</td>
</tr>
<tr>
<td>Greece</td>
<td>-1.7</td>
<td>7.0</td>
<td>80.0</td>
<td>-1.3</td>
</tr>
<tr>
<td>Belgium</td>
<td>7.5</td>
<td>8.4</td>
<td>-91.8</td>
<td>18.3</td>
</tr>
<tr>
<td>W. Germany</td>
<td>-4.0</td>
<td>-0.4</td>
<td>-26.2</td>
<td>-20.0</td>
</tr>
</tbody>
</table>


But even these values are explicative of the industrial capabilities and situation of Spain, the evolution of the trade since the Spanish integration in the EC help, I think, to get a more accurate overview of the general situation. The intra-EC trade balance of the Spanish economy has been worsening since 1986, meanwhile the trade with the
Figure 2.12
Variation of exports and imports with developing countries, over 1985

![Graph showing variation in exports and imports with developing countries over 1985.](image)

Source: Eurostat

Figure 2.13
Variation of exports and imports with western countries, over 1985

![Graph showing variation in exports and imports with western countries over 1985.](image)

Source: Eurostat
developing countries has increased notably, favoring the Spanish balance (see figures 2.12 to 2.14).

A general characteristic of the unifying process is, regarding the trade with other countries, the general decrease in imports from developing countries. Spain and Portugal seem to be now the substitutes of these countries in exporting from labour-intensive industries. The small Northern countries are the only ones increasing the imports from developing countries (maybe because they do not have enough volume as markets to trade with Spain, that is a big producer). Exports to the developing countries decreased also during the last years, again with the Spanish exception. Spain increased its exports to these countries in a 40%, meanwhile the rest of the European countries kept the same
volume of exports or decreased it. It seems that Spain, through the integration in the EC, improves its trade with developing countries. Talking about the trade with Western countries and intra-EC trade, the situation is similar in both cases, with the exceptions of Spain and Portugal, which imports from the EC boomed since 1986. Their exports to the EC grew as well, but at comparable levels with the other countries. Spain also see how its imports from Western countries boomed in the last four years, meanwhile its exports to these countries kept the former level.

This proves that the Spanish economy is between the developed economies from Northern Europe and the economies from the Third World countries, being a potential market for imports from Europe and a powerful producer, with lower costs, to export products based on trained labor and capital, mainly.

But, why is the Spanish economy able to grow without losing stability, getting closer to the european standards faster than other southern countries? After entering the EC, Spain got a flow of investment looking for fast benefits and for establishing in one of the biggest markets of the whole Community. This flow of money did not come, as many times is thought, because of the higher interest rates in Spain. This is a reason, but it is not the only variable in provoking
the foreign investment. As shown in the figure 2.15, the interest rates are not much higher than in some other countries. The change of interest rates following the economic circumstances is not, in that sense, a question to worry about. The main reasons for the investment seem to be, again, the size of the market and the internal capabilities of labour, capital, human capital and natural resources.

Figure 2.15
Treasury bills rate
Year 1989

Source: Eurostat
THE CONSTRUCTION INDUSTRY IN EUROPE:
THE PLAYERS AND THE RULES.

The evolution of the Construction sector has always been related with the general economic development. The activity of the different industrial sectors depends on the constructed facilities and structures, and the construction activity depends on that initial need of the industry. That interrelation provokes a similar activity cycle for the construction industry than for the rest of the economic sectors, but with two main differences: First, there is a gap between the general industrial output curve and the construction output curve. The cycle of the construction activity is delayed in relation with the industrial cycle. Second, the curve of the industrial activity cycle is fairly steady comparing with the construction activity curve, where the growing and decreasing stages are stronger. Explained in other way, when the rest of the economic sectors have a low or negative growth rate, the Construction industry has a stronger negative effect, meanwhile the medium or high growth in other industries provoke and even higher growth rate in the Construction industry.

This trend has been very clear in Europe, since the crisis of 1974. Comparing the GDP curve of the countries with the construction output, we can see that tendency, with much
higher growth in construction than in the rest of the industry for the growing periods, and a stronger downwards tendency for construction than for the other industries in periods of stagnant or decreasing activity.

In figure 3.1 we see the Spanish GDP and construction production for the last fifteen years, since 1974, with that tendency clearly stated.

But, at the same time, the general economy suffers the effects of the construction activity, because it represents an important share of the total GDP, and the ups and downs of the construction output affect the direct and indirect supplier industry, as well as the variation of employment (the construction industry is a labour intensive industry,
always employing a higher percentage of the population than the percentage of total output it produces).

Talking about fragmentation, the European Construction Companies are national ones. Their activities focus on their respective national markets, and they almost never export their services to other European countries, although this situation is changing lately.

This nationalization of the European Construction Firms is the consequence of two main reasons:

* The construction market is very "local" regarding the labour force. Also because of the peculiar characteristics of the demand (relative to uses, costumes, climatology, and geography), that limits the possibilities of scale production. The less local aspects of the Construction industry are the equipment and the premanufactured construction products and materials, as well as some services related with human capital, capital, engineering, and management. Until now, important restrictions for the movement of labour, capital, human capital and natural resources have provoked this situation. The effect was stronger in the services field, because of normative and rules, professional acceptance, and so on. This explained the flow of construction activity to the Third World countries, where a good political relation
and the lack of rules and organized structures were the key reasons for the European companies to work outside the Foreign European countries.

* The second reason is that the Public Administration represents a main share of the market, and its decisions on infrastructure and social equipment are made, until now, on the basis of confidence and knowledge of local companies.

Politically, two factors will improve a less fragmented industry through the unification rules: On one hand, the removal of the barriers for goods, persons, and capital. On the other hand, the standardization of rules and procedures that will allow the unification of the offer as much as possible, regarding to processes as well as quality control and products.

But some important reasons for the fragmentation of the industry will not be removed by the political action. The characteristics of the demand will keep being the same, and their evolution will follow a slow and steady process where economic and cultural differences will take part.
The European Construction Industry.

In 1987, the European Community construction market was worth some $325 billion, one quarter of the world construction market. The market in the EC is spread as shown in figure 3.2:

---

**Figure 3.2**
The European construction market
Year 1986.

- Private non-residential 16%
- Public non-residential 8%
- Renovation 39%
- Civil Engineering 15%
- Housing 24%

Market share

---

The construction output in Europe accounted for 11% of the European GDP. The Northern European countries outside the EC have an average ratio construction/GDP higher than the EC countries, as shown in figure 3.3.

---

(5) EuroConstruct 88.
During the last 5 years, the GDP and Construction output have been growing in Western Europe, although the percentage of construction output over the GDP has been diminishing (see Figure 3.4). This might be due to the gap between the construction output curve and the rest of industry output.

Figure 3.3
Construction as a % of GDP
Year 1987

Figure 3.4
West European Construction output & GDP: 1985-100.
In 1987, West Germany was the dominant component of the construction output. Italy and France were of similar size, while UK was the fourth most significant market. In the late 80's, UK began the most dynamic growth in output, with France growing steadily, and Italy and West Germany maintaining a sluggish growth. Spain is, since the mid-80's the fastest growing country in construction terms, thanks to the injection of activity steamed from the membership of the EC, as well as the work for the Olympic Games and the World Fair. These circumstances have made the Spanish construction growth the highest in the world since 1985 (see figure 3.5).

FIGURE 3.5
GROWTH OF CONSTRUCTION OUTPUT

Source: Euro-Construct and own computations
Several trends are noted across Europe. First, the differences between the North and South are the reason of the high growth in civil engineering construction in the Southern countries such as Spain. Second, the impact of demographic changes within Europe, that influence the economic activity and the construction output. In that sense, Europe can be split into three groups. West Germany, along with Belgium and Italy has a declining and ageing population and as a result overall construction output and particularly housing starts, will remain depressed. The United Kingdom, together with Denmark and Luxembourg falls into the second group with a static, though still ageing population.

Figure 3.6
West European Population Changes
1985-2005

Source: Eurostat
The third group, which includes France, Spain, and Ireland, has a growing population and the long term outlook for construction into the 1990's is strongest in these countries (see figure 3.6). Third, the growing environmental concern will be a high political and economical issue that will push (it is happening already) the construction output through a higher specialization.

The construction boom that followed the industrial growth of the 80's seems over. European construction activity will grow a 2.4% overall, according to the latest data. This represents a significant deceleration from the growth rates of 5.8% in 1988 and 4.6% in 1989. The peak has passed in Britain, Netherlands, Finland, Norway and Sweden. West Germany and Spain stand out as the two countries most likely to maintain growth. Two main factors have caused this drop in expectations. The first is the end of the surge in business investment, because of the typical cyclical behavior, and the saturation of construction offer. The second factor stems from the general economic climate. Rising rates of inflation, slower economic growth, and tighter financial and monetary policies. And the latest cause, the new oil crisis.

(6) EuroConstruct 90.
Prospects for civil engineering and heavy construction are better than for building work. A 4.7% growth is expected this year, not far short of the 5.6% and 6% recorded in 1989 and 1988 respectively. The growth is due mainly to transport infrastructure in Spain, France and Great Britain as well as to the growing importance of environmental protection projects such as water treatment schemes. Lately, the political changes in Eastern Europe are expected to bring a stimulus to project activity in Europe, and specially in Federal Germany.

The European Community is entering the 1990s facing a slowdown in growth of construction investment, according to industry experts. 7

(7) James Capel. Euroconstruct 90.
The growth is expected to average only 1.7% until 1995. It had averaged 4.2% annually between 1985 and 1988, peaking at 6% in 1988, according Euro-Construct.

The housing market, which accounts for one quarter of the total output, is expected to decline an average of 0.3% annually until 1995, due to a slowdown in population growth. The exception will be Germany, after the unification.

The heavy construction will pull up the market, through the new communication investments in Europe. This sector, which accounts for one fifth of the market, will experience an average growth of 2.8% over the next five years.

**Figure 3.8**
Share in the European Construction market

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Commer./Indusr.</th>
<th>Public Build.</th>
<th>Heavy-Highways</th>
<th>Renovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Euro-Construct
Similarly, industrial and commercial construction, which accounts actually for the 17% of the market, will remain at high levels as industries try to increase their competitiveness to survive the single European market and the globalization of the economic activities. The growth is expected to slow from the 8.9% in 1988 to an annual average of 2.3% through 1995.

Renovation, already Europe's biggest construction business, is slated to continue growing in the medium term. This market, with a steady growth over the last years, increased its activity a 3% in 1988, and it will grow a 2.2% through 1995.

The structure of the construction industry in the different countries:

For the five largest countries within the EC, this year will be fairly good, specially for Spain, that keeps growing as the most dynamic market in Europe (figure 3.9).

These countries accounted for approximately the 85% of the construction market in the EC. The expected size of the national construction markets in Europe in 1990 is shown in figure 3.10, with West Germany as the largest market, and Spain catching up with the volume of the other big countries
in Europe, after the growth experienced during the late 1980s.

**Figure 3.9**
Forecasts for the five largest European countries

![Graph showing growth forecasts for five European countries over years 1986-1990.](source)

**Figure 3.10**
National Construction markets
Year 1990 (expected)

![Bar chart showing construction volume in billion ECU for various countries, expected for 1990.](source)

In the construction industry, the technical capabilities of the different European companies are recognized. But the acknowledgment is not the same talking about the
organizational, economic or structural aspects of the construction sector, as well as of the companies.

*The fragmentation of the national markets:*

The comparison among the different national structures will go through the analysis of the outputs by companies and by construction markets, as well as the analysis of costs in the companies. I will begin with the comparison of the level of concentration of the firms in the different countries.

<table>
<thead>
<tr>
<th>Country</th>
<th># of companies</th>
<th>Number of employees (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK (87)</td>
<td>223</td>
<td>270</td>
</tr>
<tr>
<td>France (87)</td>
<td>154</td>
<td>214</td>
</tr>
<tr>
<td>W. Germany (87)</td>
<td>91</td>
<td>155</td>
</tr>
<tr>
<td>Italy (86)</td>
<td>50</td>
<td>46</td>
</tr>
<tr>
<td>Spain (86)</td>
<td>47</td>
<td>96</td>
</tr>
<tr>
<td>Sweden (87)</td>
<td>27</td>
<td>68</td>
</tr>
<tr>
<td>Netherland (86)</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Austria (87)</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td>Finland (86)</td>
<td>16</td>
<td>26</td>
</tr>
<tr>
<td>Denmark (80)</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Belgium (85)</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Norway (87)</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Switzerland (85)</td>
<td>8</td>
<td>5</td>
</tr>
</tbody>
</table>

If we look at the number of big companies in the different European countries (Table 3.1), we will find the first clear difference. The companies with more than 500 employees are relatively common in UK (223) and France (154). Comparing with the number of companies in West Germany (much bigger market) or with Italy (the same size than France and bigger than UK in construction terms), it is a first indicator of the fragmented industry in Germany and Italy. In Spain we find almost the same number of companies that in Italy, although the Spanish market was only the 60% in volume than the Italian. But, comparing with the UK or with France, the Spanish construction industry seems also too fragmented.

The average size of these companies in Spain is much bigger than in Italy (96000 employees against 46000, with the same number of companies), and bigger than in Germany, France, and United Kingdom. Other country with few but big sized companies is Sweden (the same number of companies per total output, but larger companies).

A deeper analysis of the companies of the five largest EC countries shows the patterns of fragmentation in the different nations, based on the number of firms and the percentage of output per type of company (Figure 3.11).
If from a previous comparison it seemed that the German Construction industry was more fragmented than the other countries', now the perspective is different. Italian Construction industry is fragmented in a higher degree than the construction industry of its neighbors, including
Germany. Two third parts of the total construction output from Italian firms is carried out by small firms, and only a 6% is done by the largest groups (firms with more than 500 employees). But this is not the case of Germany: Although almost the half of the total output is accomplished by small companies, the largest firms build the 12% of the construction production, almost the same than France. Surprisingly, the Spanish share of the market is more alike the British.

If we look at figure 3.12, the situation appears even more remarkable. The German and Spanish structure are less fragmented than the other European countries, if we consider the number of companies: First, the amount of companies is lower, but the percentage of companies of each size seems more balanced, with a higher share of medium and big companies than British, French, and Italians, that have a higher percentage of companies that are too small. Also, due to the high number of companies in France and in the United Kingdom, the amount of work per company should be much lower than in the other countries (see figures 3.13 and 3.14).

That is maybe what makes the British, French, and Italian companies to internationalize more than the Germans or the Spanish. And that means that the invasion of German or
Spanish markets should be much easier (based on the low amount of national competitors) than the invasion of other countries.

**Figure 3.13**

# of construction companies in the five largest European countries. Year 1987

![Bar chart showing the number of construction companies in the five largest European countries in 1987.](image)

Source: Ecoferra & own computations

**Figure 3.14**

# of construction companies per million ECU of total output

![Bar chart showing the number of construction companies per million ECU of total output in 1987.](image)

Source: Ecoferra & own computations

Note: The output comparison for each country is in 1987.
The costs of output:

A glance at figure 3.15 shows the split of average costs for the five largest nations within the EC. The costs of labour, Gross Profit Margin, Raw materials, and services are as a percentage of the total output.

The comparative advantages are stated in the figure. Spain, UK and Italy have a comparative advantage in labour costs, as in the rest of the industries. Spain, and Germany have a relative advantage in services costs, comparing with the really high percentage of these costs in France and the UK. But Spain has its raw materials costs comparatively higher than the other countries.
Regarding the subcontracting, Spain has increased the value of subcontracted work during the last decade, from a 25% to a 42% of the total output in 1985. UK has also a high level of subcontracting (30%). Italy and Germany have similar levels (17.6% and 15.7%, respectively). France is supposed to deal with subcontracted work in a percentage close to the British. Contrarily, the part-time labour in the Italian construction is a procedure commonly used, reaching a value of 42.8% of the total labour, according the source Ecosfera, when in the other countries the value is a single digit number, many times under 1%. This could be explained by the fragmentation and location of the industry in Italy, with many small and medium companies working locally as contractors, and plenty of labour pool in the middle 80s, thus hiring outside labour rather than subcontracting companies. In other countries, with bigger structured firms, the subcontracting is more common procedure. What about Germany? Simply the firms are structured in such a way as working with their own labour.\(^8\)

*The construction demand:*

The largest market in Europe within the construction industry is the Rehabilitation and Maintenance.

\(^8\) ECOSFERA. "Le Imprese di Costruzione nel Mercato Europeo". February 1990.
That is true in every country but in the Southern ones, like Spain, Greece and Portugal, due to the undeveloped structure and the higher need for new building more than for rebuilding. While in the European continent the infrastructure is getting old, in Spain the infrastructure is fairly new, as well as in Portugal and Greece. Also, with a newer urban and less developed society, these countries are beginning to realize about the value of rehabilitation now, when the rest of the nations from the EC are maintaining their fixed investments for long time. Figure 3.16 shows the clear difference in investments for the five largest European countries.

![Figure 3.16](image)

**Figure 3.16**

Construction demand in the 5 largest European countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Type of construction</th>
<th>% of total output</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK (1984)</td>
<td>Residential</td>
<td>10</td>
</tr>
<tr>
<td>WG (1987)</td>
<td>Public Non Residen</td>
<td>20</td>
</tr>
<tr>
<td>Italy (1986)</td>
<td>Private Non Residen</td>
<td>30</td>
</tr>
<tr>
<td>Spain (1986)</td>
<td>Civil Engineering</td>
<td>40</td>
</tr>
<tr>
<td>France (1985)</td>
<td>Maintenance</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Ecoater

The Civil Engineering and Non-Residential construction are comparatively stronger demands in Spain than in the
other countries, a clear sign of development of a new economic environment. Meanwhile, the other four countries have in the Maintenance their main scope of work. France is strikingly strong market for Civil Engineering, and the UK has a low demand of Residential construction comparing with the rest of the countries.

*The market trends throughout Europe:*

The most active types of facilities demanded on a worldwide basis, are Transportation construction, mining/extractive, water/sewer, power generation, chemical/petrochemical processing, and general manufacturing. These types of projects account for the 60% of the total worldwide construction production.⁹

The geographic distribution of the different types of projects in Western Europe is as follows: In France and UK, the involvement on the Cross Channel Tunnel should result in additional infrastructural projects. In the Benelux countries, chemical and petrochemical activity is significant. Spain is implementing a multi-billion dollar

road project throughout the country, as well as the change of the whole railroad system and transport infrastructure in general. Prospects in Germany are quite bright, due mainly to the strong housing sector, business and manufacturing construction, after the unification. In a medium term, infrastructure should be pushed up across the former East Germany. The construction output growth expected for the Western European countries is shown in figure 3.17, with the main construction sectors.

In East Europe, changes are opening the construction market for the Western companies, but quite slow. The main needs in almost all countries in Eastern Europe are housing, refurbishing, civil engineering and communications infrastructure. The environmental needs
deserve special attention, since they are new concerns across the whole Europe, even in the Eastern countries the need is urgent. But the general situation of East Europe and the forecasted trends require deeper analysis, and I will go through it in the last section of this chapter.

The construction needs in Eastern Europe:

The newly democratic countries of Europe lack the efficiency of the Westerners. Actually, this was one of the main reasons for the political change overtook in the last year. This lack of efficiency provokes a inability to compete. The first step in the development of the new trade markets is the split up of the old and huge state companies, leading then to a privatization of the smaller parts, that become fully new companies. But the privatization and the further development require money supply: First, because of the process of privatization itself, that for the medium and big companies will be done by stock exchange. Second, because of the facilities that will have to be created for the improvement of manufacturing and service processes.

The lack of money and efficiency provoke, then, the search for foreign investment in the companies and in the markets in general, that is attracted through tax breaks on profits, as well as free transfer of money in and out of the country.
the normal restrictions in western terms. though). But this investment is looking for profits and prospects of economical development of the markets. These markets offer mainly the long term prospects, based on a known developed society, with trained people to develop quickly but without purchase power at the moment. And the inefficient industry does not seem able to offer the solution to this lack of economic power, thus the first main assets of these countries are some basic factors of the industry, such as natural resources and labor, rather than the combination of them. We can consider also the Real Estate assets, but it is a political matter since, due to the differences in the purchase power and prices between Westeners and Easteners the different countries of Eastern Europe might end up sold to the West, and the Eastern governments will not allow that ¹⁰

The construction output just follows the economy, and it has been stagnant and even declining across the different countries but in East Germany, where there has been a steady growth. The construction outputs of the different countries across Europe are shown in figure 3.18. The general situation of the countries across Europe, based on their GDPs, is shown in figure 3.19. To compare the

differences between the Western countries and the Eastern ones, the values are per capita.

The Eastern countries, as markets for the construction industry, are important in size (Poland has the same population than Spain, and it accounts for the third part of the total new European market, without considering the USSR), even though their construction output seems too low actually, comparing with the countries from the EC.

Some key indicators of the situation of these countries are shown in table 3.2.

<table>
<thead>
<tr>
<th>Table 3.2. Key Indicators of Eastern countries.</th>
</tr>
</thead>
<tbody>
<tr>
<td>USSR</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Popul. (millions)</td>
</tr>
<tr>
<td>Area (000 km²)</td>
</tr>
<tr>
<td>GDP (ECU bn)</td>
</tr>
<tr>
<td>Growth (%, 1989)</td>
</tr>
<tr>
<td>Inflation (%, 1989)</td>
</tr>
<tr>
<td>G. Ext. Debt ($ bn)</td>
</tr>
<tr>
<td>Const. as % of GDP</td>
</tr>
</tbody>
</table>

As we see, not every country in Eastern Europe is in the same conditions facing the trade market development. And there are no too many doubts about which countries are the safest bets for investment. Since East Germany is already a part of the actual Germany, ceasing as a country, it seems that there will not be many opportunities for non-German speakers. Inflation and monetary supply are the fundamental economic factors that will determine the immediate chances of the different nations to develop.

Figure 3.18a
National Construction markets
Year 1990 (expected)
Before democratization, Czechoslovakia had low inflation and a comparatively modest foreign debt; Hungary was higher on both counts; while Poland, owing to recent debt write-offs, now ranks below Hungary in terms of debt, but it has a huge inflation rate. The common advantage of these three countries is also the geographic situation as bridge between the Western Europe and the USSR and other
countries of the environment. That, along with the cheap labour, should give them an advantage for the foreign investment in manufacturing plants.

A period of stagnation and unemployment is almost certainly the immediate price of the transformation to a market economy. To face the lack of efficiency of the industry, only the inflow of money through foreign investment, as well as exports of raw materials seem to be a solution. Among the four inputs of the industry: natural resources, labour, capital, and human capital, these last two factors are missed in these countries. The trained (but not skilled) and cheap labour can be an appeal for the investment in industrial plants. The natural resources, without any other value added, are another source of money. But in East Europe, the only country that can really get advantage of its natural resources is the USSR. The last oil crisis is stressing the idea that the Eastern countries will have difficult to improve their situation in a short run, although for the USSR, the increasing oil prices could be the solution for the need of hard currency.

Only the Real Estate seems to be a source of money supply, due to the short term prospects of benefits from tourism and commercial and business travel. It does not require huge
amounts of long-term investment and the need of this hotel facilities is urgent.

The share of the construction sectors in each Eastern European country was as shown in figure 3.20. Although the values of the East German and Romanian Construction are not shown, we see the unbalanced distribution in some countries, with a Civil Engineering sector that is not strong enough for countries that will be developing as trade markets.

![Figure 3.20](image)

**Figure 3.20**

Construction sectors in the East European Countries. Year 1989

Also, it is interesting to remark that the Repair and Maintenance sector is fairly strong in all the countries (a characteristic of the former communist countries was the high expenditure in maintenance in contrast with the new
investment). Only Bulgaria seems to be different, due to the needs of a recent development and the birth of an urban society from the old rural environment.

The residential sector output is fairly balanced comparing with the western construction industry, what means that, due to the difference in total output, the need for residential building is fairly high, following the occidental patterns.

Summarizing, the need for construction is very high in every sector. For the development of a trade market, the civil engineering and non residential sectors should be improved urgently. But the social needs require the residential and maintenance construction, as well as the improvement of environmental engineering, including here the water and energy supply and the environmental protection (what will imply also the development of the non residential and maintenance sector, through the rebuilding of obsolet and polluting industrial plants).

An ecological plan is needed in the area. Sewage, factory discharge and poorly stored toxic waste have contaminated soil and ground water in many regions. But the main trail of industrial devastation follows Central Europe’s coal and steel belt, stretching from the south of East Germany,
across northern Czechoslovakia to southern Poland. More than 15 million people live in this area. West Germany estimates that pollution in East Germany alone causes $18 billion worth of damage each year.\textsuperscript{11}

As an example of environmental concern, the new governments of Eastern Europe have created environmental departments, and they acknowledge that cleaning up will mean closing many outdated plants and tearing down neighborhoods steeped in lead and zinc dust. Western Europe, threatened by the toxic brew and dust flowing and blowing to its own doorstep, is offering aid (that will be carried out in construction terms by specialized western construction and engineering firms). West Germany has approved about $500 million to clean up East Germany, and Sweden has pledged $45 million to help stem pollution in Poland.

The high financial requirements for these improvements open the possibility for the western companies to get into these markets, based on their financial capacity, and the support from their own governments. Also, the strong technical needs for the improvement of the efficiency and

quality in every sector of the construction industry open the
doors for joint ventures, exchanging these capabilities for
the cheap labor and the knowledge of the market and
procedures of the Eastern newly privatized companies.
THE STRATEGIES OF THE SPANISH CONSTRUCTION COMPANIES.

There are several stereotypes about the European construction industry and the advantages of the companies of the different nations, such as the financial power of the French firms, the diversification and professionalism of the Germans, the adaptability of the Italians or the speed of the change in the mentality of Spanish firms.

But the Construction Firms are not single companies any more. The interrelation between the Construction Firms and other industrial groups is a fact and, moreover, the belonging to a big conglomerate (if not the ownership) is a situation that is becoming more and more common nowadays.

In the first three chapters, I studied the general environment that surrounds the construction industry in the different European countries, going from a basic understanding of what is going on in the "new Europe 1992", the whys and hows, to a comparison among the countries, always with Spain as the main focus, and to an analysis of the construction industry, by itself and as part of the European nations' industrial development, thus establishing a first framework for competition.
But to study the strategic implications of the new situation over the Construction Companies and, more particularly, over the Spanish Construction Firms, we need to know about the actual situation of the different construction groups in Europe. To do this, I will first go through the analysis of the main patterns defining that situation, and I will compare this with the strategic objectives of the companies, their capabilities, and the market requirements.\(^{12}\)

Secondly, I will go through the tendencies of the markets, focussing more on the market requirements and their bias on the Construction Firms’ evolution, to see the competitive strengths and weaknesses of the Spanish construction companies in coping with those requirements, against their European counterparts.

After that, I will develop a matrix of the possible generic strategies and their degree of implementation, to analyze them through the five competitive forces.

---

(12) The basis for the analysis are ENR "The Top 250 International Contractors" from the years 1988, 1989 and 1990: ECOSFERA's "Le Imprese di Construzioni nel Mercato Europeo", February 1990: own computations from Building Magazine's general information: Annual reports from construction companies: and the Questionaire's answers from the European companies (see appendix).
Finally, I will consider the possible access to the markets that will be the target of the optimal strategies for the Spanish Construction Firms.

The patterns of definition of the European Construction Firms.

The situation of the Construction Companies is analyzed considering the following variables:

- % of foreign work
- # of countries where the firms worked.
- # of construction sectors of their work.
- Degree of non-construction activities.
- Dependency on labor.
- Dependency on equipment.

The situation of the companies in relation with these variables was mapped, as we will see in the first figures of this chapter. The results of these maps give us a first idea of the degree and types of diversification for the European Construction and Engineering Firms, as well as a shallow view of the strengths and weaknesses of the companies.

I will begin with figure 4.1. The companies mapped are from the five biggest countries in Europe. The degree of product
diversification, as well as the geographic diversification, are stated as percentage of the total turnover of the companies during the last year (in some cases the turnover is expressed as value of contracts, though). The arrows indicate expected tendencies.

Several conclusions seem to appear here: First, the geographic diversification is considered more important than the diversification toward non-construction activities.
This is also proved in the questionnaire results, as we will see later.

Second, there is a common "National behavior": The German companies go toward the geographic diversification and they focus almost totally on construction projects; the Italian firms diversify geographically; the British companies tend to diversify toward non-construction activities. Among the French, there is not a clear tendency, other than being diversified somehow. Meanwhile, the Spanish Construction Firms are not diversified at all (neither geographically nor in non-construction activities).

Let us see the figure 4.2. Now, the diversification is not measured as in figure 4.1. The two variables considered in the next figure are the percentage of international contracts and the sectorial diversification, that is, the number of construction sectors that the companies worked in foreign markets.

The firms are spread out all over the figure. But we can find some interesting facts in this map: There is a general tendency to follow a diagonal line, that guides the relation between the geographic and sectorial diversification in this way: The more geographically diversified, the less diversified in construction sectors, and vice versa.
Again, there is a common national behavior, with the Italian firms in the lower right corner of the map, highly internationalized and very specialized, working in few sectors of the construction industry (always when they work in foreign markets, though).

The French and German construction companies are basically in the upper-left quarter of the map, with broader
product line and lower internationalization, although some German construction firms move toward the opposite corner, always following the diagonal tendency.

The British construction firms are split up in two groups: One follows the low-international-high-sectorial diversification strategy, and the other follows the high-international-low-sectorial one. Some companies are not diversified at all, though.

Finally, the Spanish construction firms stay out of the diagonal line, in the lower left corner, what means that neither their product line in international markets nor their degree of internationalization are main characteristics of the Spanish Construction firms.

As a summary, the Spanish firms do not diversify in construction sectors when they work in foreign countries. Their range of products offered tend to be low and in the less specialized sectors. French, Germans and British have a diversified range of products and are lowly internationalized, but with several strong companies broadly diversified geographically and with a high percentage of international contracts. The Italian international contractors are many, and they offer few but
highly specialized products. Their foreign contracts are a high share of the total turnover.

The third map that help us see the geographical diversification of the European construction companies is the figure 4.3. It is a group of maps, and the subdivision is on national basis. The internationalization of the companies is measured now by the number of foreign markets (countries) reached by the companies, rather than by the amount of foreign work done. This gives us, again, an idea about the risk involved in working in few foreign markets, and the possible situation of the construction firms if some countries fail as potential markets. This is what happened already in the 1980s with the Middle East and Latin American markets.

The maps show the international diversification of the construction firms from the UK, France, Germany, Italy, Netherlands, Spain, and Scandinavia, as well as Japan and the US. That will allow us to compare the firms in a national basis.
### Figure 4.3a
Diversification of the British Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td>DAY</td>
<td>BROWN</td>
<td>WIMPEY</td>
<td>TAYWOOD</td>
<td>COSTAIN</td>
<td>KELLER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-70%</td>
<td>D'VIBS</td>
<td>BEAZER</td>
<td>WOOLEM</td>
<td>DAY</td>
<td>KELLER</td>
<td>BROWN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>BROWN</td>
<td>BALFOUR</td>
<td>BEAZER</td>
<td>WOOLEM</td>
<td>TAYWOOD</td>
<td>BROWN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

* USSR, Yugoslavia, East Europe


### Figure 4.3b
Diversification of the French Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td>SPIE</td>
<td>DUMEZ</td>
<td>BOUEYES</td>
<td>GTM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-70%</td>
<td>SAE</td>
<td>FIVES</td>
<td>BOUEYES</td>
<td>GTM</td>
<td>SPIE</td>
<td>SAE</td>
<td>FIVES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>DUMEZ</td>
<td>BOUEYES</td>
<td>SAE</td>
<td>SAE</td>
<td>DUMEZ</td>
<td>BOUEYES</td>
<td>SAE</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* USSR, Yugoslavia, East Europe

Figure 4.3c
Diversification of the German Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td>HOCHTIEF</td>
<td>MANNESM</td>
<td>WTS</td>
<td>MANNESM</td>
<td>HTM</td>
<td>NOELL</td>
<td>BAUER</td>
</tr>
<tr>
<td>40-70%</td>
<td>LURGI</td>
<td>DAW</td>
<td>NOELL</td>
<td>BAUER</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>ZUBLIN</td>
<td>DAW</td>
<td>NOELL</td>
<td>BAUER</td>
<td>LURGI</td>
<td>DAW</td>
<td>HOCHTIEF</td>
</tr>
</tbody>
</table>


Figure 4.3d
Diversification of the Italian Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td>TORSO</td>
<td>FIAT</td>
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<td></td>
</tr>
<tr>
<td>40-70%</td>
<td>ITALIMPI</td>
<td>IMPREGILO</td>
<td>SNAMPROG</td>
<td>FIAT</td>
<td>GIROLA</td>
<td>INCISA</td>
<td>ITALIMPI</td>
</tr>
<tr>
<td>0-40%</td>
<td>TECNIMONT</td>
<td>ASTALDI</td>
<td>SAIPEM</td>
<td>FIAT</td>
<td>TECNIMONT</td>
<td>ASTALDI</td>
<td>SAIPEM</td>
</tr>
</tbody>
</table>

### Figure 4.3e

Diversification of the Dutch Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td>VOLKER ST</td>
<td>BOSKALIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-70%</td>
<td>BOSKALIS</td>
<td>HBG</td>
<td>EUROCONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>EUROCONS</td>
<td>BOSKALIS</td>
<td>HBG</td>
<td>VOLKER ST</td>
<td>BALLAST</td>
<td>BOSKALIS</td>
<td></td>
</tr>
</tbody>
</table>

% of countries in the region:

<table>
<thead>
<tr>
<th>BALLAST</th>
<th>VOLKER ST</th>
<th>CUBIERTAS</th>
<th>DRAGADOS</th>
<th>AGROMAN</th>
<th>CUBIERTAS</th>
<th>DRAGADOS</th>
<th>DRAGADOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>21</td>
<td>14</td>
<td>3*</td>
<td>16</td>
<td>22</td>
<td>10</td>
<td>30</td>
</tr>
</tbody>
</table>

*USSR, Yugoslavia, East Europe


### Figure 4.3f

Diversification of the Spanish Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-70%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>DRAGADOS</td>
<td>DRAGADOS</td>
<td>AGROMAN</td>
<td>CUBIERTAS</td>
<td>DRAGADOS</td>
<td>CUBIERTAS</td>
<td>DRAGADOS</td>
</tr>
</tbody>
</table>

% of countries in the region:

<table>
<thead>
<tr>
<th>CUBIERTAS</th>
<th>DRAGADOS</th>
<th>AGROMAN</th>
<th>DRAGADOS</th>
<th>DRAGADOS</th>
<th>CUBIERTAS</th>
<th>DRAGADOS</th>
<th>CUBIERTAS</th>
<th>DRAGADOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>21</td>
<td>14</td>
<td>3*</td>
<td>16</td>
<td>22</td>
<td>10</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

*USSR, Yugoslavia, East Europe

Source: ENR/July 6, 1990. "The top 260 Int'l Contractors*
**Figure 4.3g**
Diversification of the Finish & Swedish Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>Region</th>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-70%</td>
<td>NCC</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>YIT LEMMINKAN</td>
<td>HAKA</td>
<td>NCC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* USSR, Yugoslavia, East Europe


**Figure 4.3h**
Diversification of the Japanese Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th>Region</th>
<th>N. America</th>
<th>Latin</th>
<th>W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-100%</td>
<td>HAZAMA KUMAMAI SHIMIZU MITSUBISHI AKI TOYO TAIKISHA</td>
<td>SHIMIZU</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-70%</td>
<td>SUMITOMO TAKENAKA JOC OBAYASHI CHIYODA KISHIMATSU TIBEI</td>
<td>TAKENAKA</td>
<td>TOYO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-40%</td>
<td>TANSEI AOKI TOYO HAZAMA CHIYODA MITSUBISHI TAKENAKA KUMAMAI KAJIMA TAIKISHA SHIMIZU TIBEI</td>
<td>TOYO</td>
<td>TANSEI</td>
<td>OBAJASHI</td>
<td>KUMAMAI</td>
<td>KAJIMA</td>
<td>TAIKISHA</td>
<td>SHIMIZU</td>
</tr>
</tbody>
</table>

* USSR, Yugoslavia, East Europe

We have two variables to study in these figures: First, the number of companies from each country that worked in foreign markets (in some cases, like Italy or Japan, not all the companies are included because of the lack of space in the maps). Second, the level at which they reached the different markets (the markets are defined as the main economic and geographic areas around the world).

Again, we see that the Spanish construction firms are less diversified than the rest of the European companies.
The UK firms are strongly introduced in the American area, with no many firms working there, though. Also, they seem to have penetrated in Western Europe. Although the areas where more British companies worked are the Middle East, Asia and Africa, the companies did not work in many countries, there. The work of the British construction firms is, anyway, spread out all over the world.

Fewer French companies are working abroad, although they tend to work in more countries. America, Western Europe, North Africa and Africa are the areas where the French firms spread out their work in a higher degree, but the French construction industry is working all over the world.

The German companies, even they have lower percentage of international contracts (as we saw before), work in every area, and tend to have stronger presence in America and Europe in general (West and East), the Middle East being their next market.

The Italian firms are, again, strikingly internationalized, if we see the amount of countries where they worked, the percentage of foreign contracts, the degree of penetration in the different markets, and the number of companies involved. Their main markets are in the non-Asian-Third-
World countries, with notable presence in North America and Europe, too.

The Dutch firms, with less potential than the other European companies, tend to be specialized in the type of works, but they try to work in every geographic market. America, West Europe and Africa seem to be the better known markets for them.

Among the Spanish construction firms, Dragados is the only company that can be included in the general tendency of the European firms, although it is not strongly internationalized. The Spanish companies work mainly in Latin America and North Africa, when working abroad.

The firms from the Scandinavian countries tend to work in Europe, focussing more on the Eastern markets. Like in the Netherlands, in Scandinavia there are not many firms highly international, but the Finish and Swedish companies seem to be working in less specialized fields than the Dutch firms.

The Japanese construction industry is a good example of internationalization if we look at the number of firms working abroad, but their penetration in the markets is not as strong as their geographical diversification. Their main
markets are North America and Asia, getting involved in Europe, too. They work all over the world.

There are many fewer American construction firms working in foreign markets than Japanese or European companies, but the most of them are huge groups with big amount of foreign work. Europe and the Middle East are their main markets.

Summarizing, we see that the markets for the construction firms are different in location and intensity depending on the nationality of the companies, the size, and the degree of specialization. The nationality of the construction firms makes them work in areas with strong trade relations, common language, close location and historical links (like former colonization) with their country. The size of the companies pushes them to the big markets. If the companies are small, like the Italian firms, they focus more on the specialized works. If the construction firms are highly specialized, they tend to be highly internationalized, and their penetration in the markets depends on simple reasons like direct demand.
Figure 4.4

Diversification of the different nations’ Construction Firms, per geographic area. Year 1989.

<table>
<thead>
<tr>
<th></th>
<th>N. America</th>
<th>Latin W. Europe</th>
<th>East Eur.</th>
<th>Mid. East</th>
<th>Asia</th>
<th>N. Africa</th>
<th>Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIGH</strong></td>
<td>JAPAN</td>
<td>UK</td>
<td>FRANCE</td>
<td>GERMANY</td>
<td>GERMANY</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MEDIUM</strong></td>
<td>ITALY</td>
<td>USA</td>
<td>FRANCE</td>
<td>UK</td>
<td>GERMANY</td>
<td>ITALY</td>
<td>FRANCE</td>
</tr>
<tr>
<td><strong>LOW</strong></td>
<td>JAPAN</td>
<td>USA</td>
<td>SCANDINAV</td>
<td>UK</td>
<td>GERMANY</td>
<td>JAPAN</td>
<td>FRANCE</td>
</tr>
</tbody>
</table>

In figure 4.4, we see the main markets for the different national construction industries. Clearly one of the three main economical areas attract the construction firms from the different countries. It is the case of the North American market, where Japanese as well as European construction firms have penetrated the market, but the case of the European and Asian markets is not the same: None non-Asian companies have strong presence in Asia, and only the
American companies have a medium penetration in Europe, among the Non-European construction companies.

After analyzing the diversification of the European construction companies, we can go to the study of two of the basic factors of the construction industry: Labour and equipment. At a first glance, both seem interrelated: The strongerly a company relies on labour, the lower the equipment need is.

In figures 4.5 and 4.6, I compared both factors with the degree of internationalization of the companies. It seems also that the more labour intensive is a company, the less internationalized it is, and the more equipment intensive is a company, the more internationalized it is.

The Spanish construction firms' characteristics are labour intensity and no equipment intensity. The British companies are labour and equipment intensive. French and German construction firms seem to be labour intensive and non equipment intensive. The Italian firms tend to be no intensive neither in labour nor in equipment, what makes them work very well in foreign and specialty markets.
The most of the companies do not seem to have any special advantage or disadvantage in the use of labour. Only the Italian firms, that rely strongly in outside labour, could find an advantage in that fact.

Also, companies highly professionalized, like Bovis, or highly specialized, like Impregilo (which is a consortium of three companies that works exclusively in foreign markets), tend not to be labour intensive. A special case is Dumez.
that is a very internationalized company being as labour intensive as the majority of the firms.

A diagonal tendency from low internationalization-high labour intensity to high internationalization-low labour intensity can be observed in the map.

Looking at the figure 4.6, it seems that the British construction firms behave differently. If we compare them
with the rest of the construction firms, they are equipment intensive. Highly notable is the case of Tarmac, that is a labour intensive company, too. Tarmac's strong commitment to the housing industry and standarization explains somehow the difference, though.

The diagonal tendency does not appear here as clearly as in the former figure.

Impregilo and Bovis follow the same direction in relation to labour and equipment. This seems to be, together with the diagonal tendency, a sign of the relation between the labour and equipment intensity, and the internationalization.

Finally, we can go trough the horizontal integration of the construction industry. The behavior of the European construction firms is shown in table 4.1, with well differenciated trends.

Even there is not enough number of Italian and German construction firms in this table, we can compare the different behaviors of the European construction groups in a national basis.
The British companies tend to diversify toward basic industries like Mining, as well as Distribution of construction components. They diversify strongly in Real

Table 4.1
DIVERSIFICATION OF THE EUROPEAN CONSTRUCTION FIRMS THROUGH HORIZONTAL INTEGRATION

<table>
<thead>
<tr>
<th>Other</th>
<th>Equipment</th>
<th>Banking</th>
<th>Mining</th>
<th>Manufacturing</th>
<th>Distribution</th>
<th>Engineering</th>
<th>Construction</th>
<th>Real Estate</th>
<th>Urban serv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bouygues</td>
<td>Bouygues</td>
<td></td>
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<td></td>
<td></td>
<td>Bouygues</td>
<td>Bouygues</td>
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</tr>
<tr>
<td>SAB</td>
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<td></td>
<td></td>
<td></td>
<td>SGB</td>
<td>SGB</td>
<td></td>
</tr>
<tr>
<td>Dunes</td>
<td></td>
<td></td>
<td></td>
<td>Dumes</td>
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<td>Dumes</td>
<td>Dumes</td>
<td></td>
</tr>
<tr>
<td>Spie</td>
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<td>Spio</td>
<td>Spie</td>
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</tr>
<tr>
<td>GTM</td>
<td></td>
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<td></td>
<td>GTM</td>
<td></td>
<td>GTM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trafalgar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tarmac</td>
<td></td>
<td>Tarmac</td>
<td>Tarmac</td>
<td></td>
</tr>
<tr>
<td>Trafalgar</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G. Wimpey</td>
<td></td>
<td>G. Wimpey</td>
<td>G. Wimpey</td>
<td></td>
</tr>
<tr>
<td>TayWoodrow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Costain</td>
<td></td>
<td>Costain</td>
<td>Costain</td>
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<tr>
<td>Dragados</td>
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<td>Dragados</td>
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<td>Dragados</td>
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</tr>
<tr>
<td>FOCSA</td>
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<td>FOCSA</td>
<td></td>
<td>FOCSA</td>
<td>FOCSA</td>
<td></td>
</tr>
<tr>
<td>Cubiertas</td>
<td></td>
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<td></td>
<td>Cubiertas</td>
<td>Cubiertas</td>
<td></td>
</tr>
<tr>
<td>Huarte</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Huarte</td>
<td>Huarte</td>
<td></td>
</tr>
<tr>
<td>Ferrovial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ferrovial</td>
<td></td>
<td>Ferrovial</td>
<td>Ferrovial</td>
<td></td>
</tr>
<tr>
<td>FIAT</td>
<td>FIAT</td>
<td>FIAT</td>
<td>FIAT</td>
<td></td>
<td>FIAT</td>
<td></td>
<td>FIAT</td>
<td>FIAT</td>
<td></td>
</tr>
<tr>
<td>Snamprojetti</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Snamprojetti</td>
<td></td>
<td>Snamprojetti</td>
<td>Snamprojetti</td>
<td></td>
</tr>
<tr>
<td>Hochtief</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hochtief</td>
<td>Hochtief</td>
<td></td>
</tr>
</tbody>
</table>

Source: Ecosfera, Building mag. and own data.
Estate, and some firms go toward non-construction activities. The French firms are seriously diversifying toward non-construction activities, mainly. The Spanish companies have the Real Estate and Urban Planning as the main focuses of their diversification strategies. On the Italian side, Fiat is a clear case of almost total diversification, and it is somehow an example of the diversification of the Italian construction companies toward engineering (their strongest value) and sectors that offer them synergies. Hochtief is getting involved in Real Estate although, like the rest of the German firms, the intensity of the diversification is not notable, at least in the non-engineering activities.

It is interesting to remark that the construction groups that diversify more are corporations, that is, they are the main firms of a conglomerate of companies. The construction firms that are a part of a bigger conglomerate tend to not diversify, keeping their contracting role inside their corporations.

As a summary of the diversification strategies of the European construction companies and their capabilities, Table 4.2 shows the general national behaviors regarding the different patterns studied. That gives us a general overview of the differences among the companies.
from each of the five largest EC countries. We see that, in relation with the patterns of their international companies, the French and German construction firms are alike. The French are more diversified, though. Also, the German companies spread their work all over Europe more than the French firms, and the French are spread out in the rest of the world more than the Germans. The UK firms are split up in three groups, what means that we do not find common patterns for the British construction companies.

Table 4.2. MAIN PATTERNS OF THE EUROPEAN CONSTRUCTION FIRMS

<table>
<thead>
<tr>
<th>Country</th>
<th># of foreign</th>
<th># of nations contracted</th>
<th># of products (non-construction activities)</th>
<th>Diversification</th>
<th>Labour intensity</th>
<th>Equipment intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>France</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Med/Large</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Germany</td>
<td>Low/Med</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>UK(1)</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low/Med</td>
<td>High</td>
</tr>
<tr>
<td>UK(2)</td>
<td>Low</td>
<td>Low/Med</td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
<td>Med/High</td>
</tr>
<tr>
<td>Trafalgar/Tarmac</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>LOW</td>
<td>High</td>
</tr>
<tr>
<td>Italy</td>
<td>High</td>
<td>Low</td>
<td>Low/Med</td>
<td>Low</td>
<td>LOW</td>
<td>Medium</td>
</tr>
</tbody>
</table>

Source: ECOSFERA. "Le Imprese di Costruzione nel Mercato Europeo"; ENR. "The Top 250 International Contractors"; Firms' Annual Reports.
Objectives, Demand and Capabilities of the European Construction Firms. The Questionnaire Results.

The actual positioning of the Construction companies shows their response to the demand. Until now, the European construction firms had to cope with different requirements in each one of the countries and, as we saw before, the legal constraints were a big obstacle for the development of more international strategies. But with the removal of these barriers, the increased competition and the new trends towards integration of services in the industry, the Construction and Engineering firms must reconsider their objectives, as well as adjust their capabilities and reposition themselves in order to cope with new needs from a more specific demand.

A questionnaire was developed in a matrix form, in order to assess these concerns and their implications for Local, National, European and International markets. The development of the questionnaire is explained in Appendix.

The questionnaire was distributed to European companies involved in Engineering, Construction and Construction Management, with Private and Public ownership. The summary results are shown in table 4.3.
Table 4.3A:
Objectives, external and internal factors that affect the success of the European Construction Firms in the International, European, National and Local Markets.

Type of Firms: GENERAL CONTRACTORS AND DESIGN-ENGINEERING

<table>
<thead>
<tr>
<th>Objectives in establishing a presence in a new market.</th>
<th>Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intern.</td>
</tr>
<tr>
<td>Need to grow</td>
<td>2.14</td>
</tr>
<tr>
<td>Geographic diversification</td>
<td>2.79</td>
</tr>
<tr>
<td>Sectoral diversification</td>
<td>1.21</td>
</tr>
<tr>
<td>Increase in market share</td>
<td>1.29</td>
</tr>
<tr>
<td>Strategic positioning</td>
<td>2.64</td>
</tr>
<tr>
<td>Meet with clients</td>
<td>2</td>
</tr>
<tr>
<td>Acquire economies of scale</td>
<td>1.36</td>
</tr>
<tr>
<td>Acquire economies of scope</td>
<td>1</td>
</tr>
<tr>
<td>Access to new knowledge or technology</td>
<td>1.79</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>External factors affecting the success in the markets (What do the clients require?)</td>
<td>Markets</td>
</tr>
<tr>
<td></td>
<td>Intern.</td>
</tr>
<tr>
<td>Knowledge of the market</td>
<td>3.07</td>
</tr>
<tr>
<td>Location of the company</td>
<td>1.93</td>
</tr>
<tr>
<td>Cost</td>
<td>3.71</td>
</tr>
<tr>
<td>Product quality</td>
<td>3.79</td>
</tr>
<tr>
<td>Product differentiation</td>
<td>2.07</td>
</tr>
<tr>
<td>Access to supplies</td>
<td>2.07</td>
</tr>
<tr>
<td>Financial capabilities</td>
<td>3.57</td>
</tr>
<tr>
<td>Presence of a local partner or subsidiary</td>
<td>2.86</td>
</tr>
<tr>
<td>Previous experience with home client</td>
<td>2.43</td>
</tr>
<tr>
<td>Other (specify)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal capabilities affecting the success in the markets (What does the company offer?)</td>
<td>Markets</td>
</tr>
<tr>
<td></td>
<td>Intern.</td>
</tr>
<tr>
<td>Image/Reputation</td>
<td>3.5</td>
</tr>
<tr>
<td>Technology</td>
<td>3.14</td>
</tr>
<tr>
<td>Management capability</td>
<td>3.93</td>
</tr>
<tr>
<td>Nature of ownership</td>
<td>0.93</td>
</tr>
<tr>
<td>Financial capability</td>
<td>3.43</td>
</tr>
<tr>
<td>Degree of decentralization</td>
<td>1.86</td>
</tr>
<tr>
<td>Sourcing &amp; procurement capability</td>
<td>2.64</td>
</tr>
</tbody>
</table>

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Table 4.3B:
Objectives, external and internal factors that affect the success of the European Construction Firms in the International, European, National and Local Markets.

Type of Firms: CONSTRUCTION MANAGEMENT

<table>
<thead>
<tr>
<th>Objectives in establishing a presence in a new market.</th>
<th>Markets</th>
<th>Internal</th>
<th>Europe</th>
<th>National</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need to grow........................................</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Geographic diversification...</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sectoral diversification......</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Increase in market share................................</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Strategic positioning..................................</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Meet with clients......................................</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Acquire economies of scale................................</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Acquire economies of scope................................</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Access to new knowledge or technology....................</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External factors affecting the success in the markets</th>
<th>Markets</th>
<th>Internal</th>
<th>Europe</th>
<th>National</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of the market..................................</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Location of the company..................................</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cost......................................................</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Product quality..........................................</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Product differentiation..................................</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Access to supplies.......................................</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Financial capabilities.................................</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Presence of a local partner or subsidiary..............</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Previous experience with home client....................</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Time performance........................................</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Bilingual capability.....................................</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal capabilities affecting the success in the markets</th>
<th>Markets</th>
<th>Internal</th>
<th>Europe</th>
<th>National</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image/Reputation...........................................</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Technology..................................................</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Management capability......................................</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Nature of ownership.......................................</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Financial capability.......................................</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Degree of decentralization................................</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Sourcing &amp; procurement capability..........................</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

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There were not striking differences in the answers from the various nations. The main differences were depending on the type of company's business (Engineering-Design and Construction vs Construction Management). Also, the characteristics of the various markets (from local to international) made the importance of the variables differ.

*Objectives in establishing a presence in a new market.*

If we focus on the first concern, that is, the objectives of the company, the four more important variables were:

- **Strategic positioning:** It is the most important factor in the European market, decreasing its value as the market gets more local. This is a logic approach, since the EC is ruled by new regulations, and this makes the repositioning a main goal. But the Euromarket will become more balanced, with common tendencies and higher stability, thus making the positioning less valuable in a medium term.

- **Geographic diversification** is the main variable in international markets, decreasing importance for more local markets. In the European arena, it is almost as important as the former factor. This is somehow a mistake since, as I said before, the economic cycles and demand
requirements will tend to have common behavior, in a unified market. Therefore the companies will not avoid the risk through internationalization.

- The need to grow is the most important reason in the national markets, together with the need to meet clients. It is a more valuable objective in the European market, though. For the Spanish construction firms, the need to grow is more important in the national market, what is a logic approach if we consider that, like the other Southern nations, Spain is enjoiing a much higher growth in construction output due to the lack of infrastructure.

- Meeting with clients is considered the most important factor in local markets, with little variation comparing with the other markets.

The general approach for the Construction Management companies is different. The main objectives are the Meeting with clients, since the business is got through negotiation or fee and the type of work is service oriented and consultancy. The main goals differ in national and local markets: The need to grow, and the strategic positioning are the most valuable factors.
External factors affecting the success in the markets

(requirements from the clients)

The main requirements are Product Quality, Knowledge of the market, Cost, and Presence of a local partner or subsidiary.

- Product Quality is the most valuable factor in the International markets, decreasing importance as the markets are closer to the local level, where the knowledge of the market as well as the presence of the company are the main variables.

- The knowledge of the market increases in importance as the market becomes more local. At the European level is almost as important as Product Quality, what means that the companies consider Europe as their natural market.

- The cost is an important reason to get work in every market, with a fairly constant value.

- An important factor at the International and European levels, the presence of local partners or subsidiaries is less valuable in national and local markets.
Therefore, it is clear that if the construction companies want to internationalize their operations, the quality of their products and services and the presence in the markets are basic requirements. We will get later on this point, since there are many inputs that influence the quality, and there are various ways to achieve the local presence.

Again, the requirements for the Construction Management services are slightly different. All the factors considered before are valuable, but Product Quality and Product Differentiation are needs of maximum importance, as well as Time Performance. Cost and Access to Supplies are highly valuable, too.

*Internal capabilities affecting the success in the markets*

- The main factor at every level is Management Capabilities of the firm. Its importance does not decrease through the markets.

- Image/Reputation increases its value as the markets becomes more local, to be the second most important factor. At the European level, it is almost as important as the Management capabilities, being always more important than the Technology. This reaffirms the value of the
Knowledge of the market and location as main requirements from the clients.

- Technology is important in every market. Its value increases at the National level, decreasing in the local market.

- The Financial capability is valuable in the International and European markets. Its importance diminishes in more local markets.

As a summary, two concerns can be remarked: The requirements of the Third World countries and the new trends toward privatization of the infrastructures (the main source of work at the International markets) make the financial capabilities crucial assets in order to get a position in the market. Also, the lower importance of the technology (if compared with the managerial and financial capacity) shows the tendency to focuss on the production process as the main source of value. This is a logic approach, since the in-house capabilities give the company the first-mover advantage and they are more difficult to copy. Moreover, they are applicable to every market and demand requirements, increasing value and differentiation rather than cost.
The Construction Management firms consider the Managerial capabilities as the most influencing factor, together with the image/reputation of the company and the sourcing and procurement capacity. The financial capabilities are also valuable.

The strengths and weaknesses of the Spanish construction firms.

What are the capabilities of the Spanish companies? How are they going to defend their actual markets from the invasion of the European groups? How will they compete in the international markets?

One of the strongest advantages of the Spanish Construction companies is their actual performance. Based on the growing Spanish market, they are plenty of work in a medium term, due mainly to the demand for infrastructure projects. A high percentage of their work is for the Public sector, although they do not forget the private developments. This, together with the lower number of construction firms in Spain, gives them the opportunity to work in big projects, to whitch they are used. Also, they are accustomed to decentralized procedures due to the political system in Spain, where the regional governments control more and more the public works.
The main weaknesses are their low degree of diversification and internationalization and the lack of management capabilities, comparing with their neighbors. The technical capacity of the Spanish firms is comparable with the competitors in Europe (not considering the highly specialized companies), but they are not used to deal with complex projects in unknown environments, with the exception of few firms. Moreover, the lack of competition makes them unable to understand the markets as the American (or even European) firms do. The main strengths and weaknesses of the Spanish construction firms are stated in table 4.4.

The fact that the main construction firms in Spain are owned by other corporations may be, like in Germany, one of the reasons of the low diversification of the companies, because the strategic role is taken by the industrial group rather than by the company. This is an advantage for the firm since, in general, it is backed by strong financial resources to compete in projects, but the company is constrained in its development by the lack of own objectives. Therefore, the firm's role is limited to no much more than the construction operations. The fact of not being owned by an industrial group is an advantage of firms
like Ferrovial, that is able to diversify more than the rest of the companies.

Table 4.4: Strengths and weaknesses of the Spanish Construction Firms

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Corporate level:</td>
<td></td>
</tr>
<tr>
<td>- Good financial situation</td>
<td>- Too &quot;national&quot;</td>
</tr>
<tr>
<td>- Strong relations with clients</td>
<td>- Low diversified</td>
</tr>
<tr>
<td>At Market level:</td>
<td></td>
</tr>
<tr>
<td>- Used to decentralized markets</td>
<td>- No big firms</td>
</tr>
<tr>
<td>At Operations level:</td>
<td></td>
</tr>
<tr>
<td>- Low equipment intensive</td>
<td>- High labour intensive</td>
</tr>
<tr>
<td>- Enough work in the near future.</td>
<td>- Low mgmt. capabilities</td>
</tr>
<tr>
<td>- Good technical capacity.</td>
<td></td>
</tr>
</tbody>
</table>

The market demand.

According to ENR's "The top 250 international contractors", the work of Spanish construction firms in international markets was focussed on building, water, industrial and transportation sectors. No firms from Spain worked in Manufacturing, Power, or Hazardous waste sectors (always in international markets), that are the segments.
where the most of the highly internazionalized companies worked. None Spanish firm is either reported to work in Design or Construction Management (as many of their competitors do).

In the sectors where the Spanish companies work, the Entry barriers are generally lower. The products offered are not highly differenciated, and the constraints are in the power of the suppliers and buyers, with high competition to get the projects. The more specialized sectors of the construction industry have higher management and technical requirements, involving the most of the times design/construction delivery, and targeted to industrial private demand, more service oriented and with higher requirements in relation with differentiation and management needs. The competition here, as well as the buyer power, is lower. The supplier power is higher, but there is not much substitution and the entry barriers are higher since the technical and managerial capabilities are higher and difficult to transfer.

Nevertheless, the activities where the Spanish firms work are applicable to a broader demand, as shown in figure 4.7. This is one of the reasons why the main companies do not abandon these activities. By working in these sectors, the construction firms enter the main markets, public or private, meeting every kind of demand.
Figure 4.7: Relation between construction demand and construction output distribution (by sectors)

<table>
<thead>
<tr>
<th>Type of demand</th>
<th>Market demand</th>
<th>Construction sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>Environmental</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Gvmt/Administration</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Urban Planning</td>
<td>x</td>
</tr>
<tr>
<td>Pub/Private</td>
<td>Housing</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Infrastructure</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Industrial</td>
<td>x</td>
</tr>
<tr>
<td>Private</td>
<td>Commercial</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Tourism/Leisure</td>
<td>x</td>
</tr>
</tbody>
</table>

Considering the implications that the socio-economic situation will have over the construction needs, three sectors may benefit from 1992:

* **Major European Contracts**: Large cross frontier infrastructure work -such as the Channel Tunnel- must be carried out in an association of various European companies.

* **Engineering expertise and specific technique**: In some narrow sectors, a European firm may possess the dominant technologies or skill required. It will thus acquire leadership in a particular market, giving it the potential to work in every European country.
* Markets near the frontier: In this context, contractors are already used to working on both sides of a frontier. This sort of business should increase.

Also, several trends can be observed, with the environmental, infrastructure and industrial segments of the demand growing in importance in a short term.

Finally, the new development of the needs make the private sector get a broader influence in several segments of the demand, such as urban planning, infrastructure, and even environmental.

With this situation in mind, we can focus now on the positioning needs of the construction firms.

The possible strategies:

At this time, the competitive game on the supply side is played in two fronts:
- The defense of the national markets and the invasion of other markets (geographical front)
- The project competition, construction and operations management (typologic front).
This gives us the framework to develop eight possible strategies for the Spanish construction firms.

In the geographical front, we have the defensive and aggressive strategies, the former implying the focus on national and local markets, and the latter implying a medium-high level of internationalization. At this point, I will consider the internationalization as outside the European scenario since, as I will state later. Europe will become a more "national" market, rather than international, with the European national markets suffering the same constraints related with the industrial factors and demand variations.

In the typologic front, I establish three fields for competition: The sectorial diversification (related with the construction activities), the Product diversification (non-construction activities), and the Value-Chain integration. The defensive strategy would imply the maintenance and focus on the actual activities, and the aggressive strategy would mean diversification towards other activities.

The figure 4.8 summarizes the whole game, stating the advantages and disadvantages in choosing each one of the strategies.
Figure 4.8
Advantages and disadvantages in developing diversification strategies for the European Construction Firms.

<table>
<thead>
<tr>
<th>Type of diversification</th>
<th>Geographic diversification</th>
<th>Sectorial diversification</th>
<th>Product diversification</th>
<th>Value Chain diversification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market share</td>
<td>Market share</td>
<td>Market share</td>
<td>Lower risk</td>
</tr>
<tr>
<td></td>
<td>Closer relation with clients</td>
<td>Specialization</td>
<td>Specialization</td>
<td>Specialization</td>
</tr>
<tr>
<td>Defensive behavior</td>
<td>Lower management requirements</td>
<td>Larger economies of scale</td>
<td>Larger economies of scale</td>
<td>Struct. flexibility</td>
</tr>
<tr>
<td></td>
<td>Focus on current knowledge of the market</td>
<td>Struct. flexibility</td>
<td>Struct. flexibility</td>
<td></td>
</tr>
<tr>
<td>Degree of diversification</td>
<td>Big market/Growth</td>
<td>Access to new knowledge</td>
<td>Higher control and coordination needs</td>
<td></td>
</tr>
<tr>
<td>Aggressive behavior</td>
<td>New knowledge</td>
<td>Risk diversification</td>
<td>Access to new relations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk diversification</td>
<td>Access to new relations</td>
<td>Product line relations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Synergies</td>
<td>Synergies</td>
<td>Synergies</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own analysis

On one hand, the defensive strategy implies the following advantages:

+ If the market size big enough, there is room for a profitable business.
+ The companies are well established in the markets. The market variations are lower, and known. It allows for improvement of capabilities rather than for searching new markets.
+ Less unknown risk. The trends of the market are known, the relations are established, and the information flow is controlled.

+ Lower requirements:
  * Access to supplies. The buying task becomes almost repetitive, thus avoiding decision procedures and coordination and control problems.
  * Financial capabilities. The market demand is more concerned with the knowledge of the specific market needs.
  * Fewer sourcing/procurement capabilities. Since the access to supplies is a repetitive task, the capacity required to coordinate and control the buying process is lower.
  * Lower need for acquiring experience/relations. They already exist.
  * Lower need for differentiation. The demand is less sophisticated, since the projects contracted by local governments are smaller and less crucial. The innovation becomes less important than the guarantees.
  * Lower importance of cost. Values such as trust, knowledge of the market, or direct contact with the market are the differentiated and required capabilities.
The disadvantages of this approach are as follow:
- Higher risk, related with possible downturns of the economy.
- Lower motivation to innovate, since acquired values like trust, operating knowledge, local relations and location are big Entry barriers for outside companies.
- In Spain, increasing competition, since the Spanish market is a big pie, and the requirements are new, more, and more especific.

On the other hand, the aggressive strategy, implying the competition in new markets, has the following advantages:
+ Risk diversification. The economical cycles in different geographical areas allow for a higher control of the volume of work, and it also gives more flexibility to deal with economic slumps.
+ Acquisition of economies of scale and synergies. For especific demands, the geographical diversification increases the size of the market, and it allows for the improvement of the learning curve and the economies of scale.
+ Access to new knowledge. Different procedures and behavior are an Entry barrier that, when overcome, gives us new source of innovation capacity.
+ Growth. A bigger market gives higher prospects of growth to the company.
The disadvantages of this approach are as stated:
- Need for more complex environment/organization. The different behavior must be met with a more flexible structure, able to deal with various markets at once.
- Higher costs (through overhead, new knowledge needs, new locations and decentralization, control of information needs...)

The product diversification gives the firms the advantages of:
+ Synergies. The knowledge acquired in new markets is a source of information to apply for the improvement of our capabilities. Also, our own capabilities may be applied to other markets, as a source of competitive advantage.

+ Information about the market (substitutes, tendencies of the market).
+ Lower risk, higher flexibility. As with the geographical diversification, the economic downturns and tendencies of various markets have different cyclical behavior, thus allowing us to diversify the risk.

The disadvantages of this positioning are:
- Lack of knowledge about the processes related with the new business. That is why the product diversification is carried out mainly through acquisition of companies.
Finally, the Backward/forward integration in the Value Chain gives some advantages to the companies, such as:
+ Knowledge of the links between the businesses and positioning of each task. That allows for big improvements in the processes.
+ Information about the market, with the implications stated above.
+ In the case of achievement of synergies, it could become a barrier to entry, since the costs of implementing the integration are notable.

The disadvantages of this approach are related with the flexibility of the organization:
- Lower flexibility. The vertical integration increases the size of the company, the overhead, and the dependency on the market.
- Higher fixed costs, due to the increasing overhead, coordination, and control.
- Less specialization, implying more quality control requirements and coordination.
CONCLUSIONS.

Spain is a country with the longest shoreline in Europe, with a problematic geography, with less developed industry than their competitors and with a lower density of population than the other countries in Europe (with the exception of Greece). These circumstances indicate that Spain’s construction industry has many opportunities for expansion in the near future.

The current huge construction demand in the Public sector in relation to total construction will diminish, although the total demand should remain at its current size relative to the GDP. This level of construction activity is consistent with historical Spanish construction contribution to the national economy (see figure 3.18b). Construction demand will become more specific, increasing emphasis on environmental works (including solutions and planning), as well as manufacturing and industrial processes in general. Also, communications and infrastructure needs will not be supported by the Public sector as much as they have been before. This will push the private sector to finance and manage previously public works. If the Spanish firms do not acquire the technical and managerial capabilities to fill these demands, they will lose large portions of their national and international markets.
The largest of the construction firms based in Spain may take advantage of the national market to grow. This will allow them to avoid takeovers and acquisitions by foreign firms. But if they cannot offer the services required in a near future, being big might not be enough. The largest industrial companies in Spain are presently being acquired by foreign corporations that may be smaller but more efficient. Also, there are many big construction firms in the international market, with either cheaper labour or many more markets than the Spanish companies.

The big construction companies from Spain should be able to defend their national market share. They have strong relationships with the public and private sector, knowledge of the market, technical reliability, decentralized structure, and strong knowledge and dominance over local suppliers. Dominance over local suppliers is primarily due to the relative weak position of the suppliers and large market share of the big Spanish construction firms. These circumstances should be enough to guarantee that Spanish construction firms retain the portion of the national market, as well as to give them time to acquire the capabilities to diversify.

Among the big construction groups, those that are a part of industrial conglomerates have the advantage of information
support from other activities within the corporation. That should make it easier for them to find and exploit new market opportunities, as well as to provide access to specific projects. This advantage is underestimated by the management of the conglomerates and the firms within those conglomerates.

The big private firms do not have this advantage, but they have the volume and the good financial performance to allow them to diversify. Entering the real estate development business may be the first step toward horizontal diversification, but such an expansion is risky since a slump in real estate implies a slump in construction. A backward integration (as seen in table 4.1) entering the manufacturing and distribution activities, may give Spanish contractors the knowledge about the market possibilities and the opportunity to compete with the bigger public firms.

The construction industry is fragmented, as evidenced by high transportation and inventory costs, lot of trade-offs in the decision process, or importance of reputation. It is difficult to get economies of scale, and this is even more true if the companies work in different fields and different geographic markets. But these circumstances should not be allowed to act as impediments to get economies of scope, information flow, and diversification of the risk.
Geographical positioning is another way to diversify. However, geographical diversification within the European market is limited, since the economical cycles closely follow those in Spain. This positioning is expensive to achieve for small and non-specialized firms. If the big construction firms need to internationalize, they should diversify beyond Europe. The constraints to enter markets such as the American market would be even lower than the impediments to European countries. The American market is big, with the high growth areas in the south of the country, with a higher percentage of Hispanic population. Work in the USA would provide excellent opportunities to Spanish firms for developing improved managerial capabilities. Dragados seems to follow this strategy, having already received a Build-Operate-Transfer (BOT) contract for a $75-million toll bridge in Puerto Rico (ENR, October 1990), in a joint venture with local partners.

The largest private Spanish construction firms will be stuck in the middle if they do no specialize. Their high current value discourages takeover and when the Spanish economy is booming their financial performance is excellent (due to the kindness of the market rather than to the efficiency of the firms) and foreign investment is increasing demand. But, in a slower market, when the demand will be more specific and the competition stronger, their lack of
diversification will force customers to look elsewhere for services.

Smaller construction firms work locally, and cannot compete against larger and decentralized firms for big projects such as infrastructures. They do not have the volume that allows for diversification nor the technical or managerial capabilities to specialize. They have a good performance and minimum costs thanks to their readjustments after the crisis of the 1970s and the huge demand. However, competition among the smaller firms may increase as the market shrinks.

But some market opportunities are showing up in the near future. Spain is following the same tendencies as the rest of the European nations, and this situation will be strengthened by the common regulations, the renovation market and post-construction activities (such as maintenance and general operations of the facilities). These areas will grow to become main markets in the construction industry. They may be a solution for these small companies.

The renovation market is small in Spain, but it is growing. In a market where every company is looking for huge growth and fast cash, this can be a market without large
competition. Also, it is a labour intensive sector, with low equipment needs. This is a type of construction in which Spanish firms have comparative advantages. The local knowledge required, as well as the relations, is high. Finally, it is a market where the economies of scale are not easy to achieve, making it less attractive for big companies.

The maintenance market (including urban services) is another possibility in horizontal integration, requiring high labour and management capabilities. This sector allows for synergies since it provides information about the market needs. Also, it requires a strong relation with clients.

Both markets are risk-diversifiers, because they generally follow economical cycles opposite of those in the construction industry. Moreover, they have low entry barriers for the local and regional firms, with high constraints for the international companies and not much attraction for the big national firms.

The Spanish companies have enormous advantage in the growing demand, which gives them money to reinvest, the work to get trained and the information to improve. These will be their primary strengths to compete in the new open market. But their excellent prospects can be lost if they become caught between markets in the short term, by not
taking advantage of their opportunities to adapt themselves to the new market trends.
The development of the Questionnaire had two main objectives:

- The understanding of the objectives of the Construction and Engineering Firms when internationalizing.
- The measure of the C & E firms' capacity to match the demand requirements.

The objectives were asked directly in the questionnaire. The measurement of the capacity to meet the demand requirements was based on two types of questions: The first type, related with the demand requirements; the second type, regarding the offer capabilities.

In order to assess the different circumstances that affected the objectives, the offer and the demand in the construction industry, I considered several market segments (defined geographically) as well as various types of companies (defined by their activities, nationality and type of ownership).

At this point, the Questionnaire was a two-dimensional matrix with variables defining the characteristics of demand
and offer in one axis, and geographical distribution, with a subdivision in Local, National, European, and International markets, in the other. We should keep in mind the characteristics of these different markets:

- The Local market is a regional area of the nation where the company is located. It has the same basic culture and similar legal and economic structure, but may have different economic development than the rest of the country, different requirements and other language.

- The National market has common language and social and economic structure. It differs from their neighbors in culture, legal and economic structure, language, economic development. Legal and economic differences should diminish in a free-trade market like the EC.

- The European market is already defined: different nations that will balance their social and economic differences in the future. But two main constraints for the total interrelation will remain: Language and cultures (as we saw before, the labour is the less movable among the factors of the industry. The demand, also, should be different, with variations equivalent to the actual regional unbalances).
- The International market is defined by different business areas, demands, languages, economic and social rules, and variable levels of development.

The questionnaire was distributed to European companies involved in Engineering, Construction and Construction Management, with Private and Public ownership. To analyze the possible relations between the different attitudes and the types of companies, questions about the type and ownership of the companies were included. The companies were asked to evaluate the importance of the different variables, answering from 0 to 5. Value = 0 indicated null importance of the item. Value = 5 indicated maximum importance. The persons to answer the Questionnaire were not specified by myself, leaving this option to the companies. Although, ideally, the questionnaire should have been answered by several positions within each company, this was not asked because the goal of the questionnaire was to establish relations among objectives, demand and offer, rather than to study the behaviour of the companies themselves.

The questionnaire was answered by fourteen European Firms, most of them related with General Contracting, and only one related exclusively with Construction
Management. The distribution of Companies according with the type of activities they carried out was:

<table>
<thead>
<tr>
<th>Type of company</th>
<th># of companies reached</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Contractor</td>
<td>13</td>
</tr>
<tr>
<td>Engineering/Design</td>
<td>5</td>
</tr>
<tr>
<td>Construction Mgmt</td>
<td>5</td>
</tr>
<tr>
<td>Real Estate Devel</td>
<td>1</td>
</tr>
</tbody>
</table>

According with the type of ownership, the distribution of companies was as follows:

<table>
<thead>
<tr>
<th>Type of company</th>
<th># of companies reached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Independent</td>
<td>4</td>
</tr>
<tr>
<td>Public Independent</td>
<td>8</td>
</tr>
<tr>
<td>Subsidiary</td>
<td>2</td>
</tr>
</tbody>
</table>

Regarding the nationality of the firms, the answers received were from all over Europe, but with low response from each individual country:

<table>
<thead>
<tr>
<th>Nation</th>
<th># of companies reached</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>3</td>
</tr>
<tr>
<td>France</td>
<td>2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1</td>
</tr>
<tr>
<td>Finland</td>
<td>2</td>
</tr>
<tr>
<td>Sweden</td>
<td>1</td>
</tr>
</tbody>
</table>

(13) Some companies defined themselves as carrying out different activities.
BIBLIOGRAPHY


CONSTRUCTION MANAGEMENT AND ECONOMICS.

CONSTRUCTIS. "Spain". April 1990.

DRAGADOS Y CONSTRUCCIONES, S.A., Memoria 1988

ECONOMIC BULLETIN FOR EUROPE. "The Internal Market and its implications for European countries outside the European Communities". 1988.


ECOSFERA. "Le Imprese di Construzioni nel Mercato Europeo". February 1990.

EL PAIS NEGOCIOS. August 26, 1990.


EUROCONSTRUCT. July 8, 1988.


GRUPO HASA, Memoria 1989.

INE (Instituto Nacional de Estadística). "Anuario Estadístico de España 1988".

INTERNATIONAL CONSTRUCTION.


MORGAN STANLEY.


